



# 7

-1-

# SEQUENCE LISTING

<110> Renner, Wolfgang A.  
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<120> Molecular Antigen Array

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<140> 10/050,902

<141> 2002-01-18

<150> US 60/262,379

<151> 2001-01-19

<150> US 60/288,549

<151> 2001-05-04

<150> US 60/326,998

<151> 2001-10-05

<150> US 60/331,045

<151> 2001-11-07

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<223> Primer

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<400> 14  
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Thr Val Ala Gln Ala  
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Cys Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr Asp Gln Val Glu  
1 5 10 15  
Asp Glu Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu  
20 25 30  
Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala His Gly Gly Cys  
35 40 45

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<210> 17  
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<400> 17  
Gly Gly Ser Ala Ala Ala  
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<210> 18  
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ggtttcgcta ccgtagcgca ggcctgggtg ggggcggccg cttctgggtg ttgcgggtgg 120  
ctgaccgaca ccctgcaggc ggaaaccgac caggtggaag acgaaaaatc cgcgctgcaa 180  
accgaaatcg cgaacctgct gaaagaaaaa gaaaagctgg agttcatcct ggcggcacac 240  
ggtggttgct aagctt 256

<210> 19  
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<400> 19  
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5 10 15  
Glu Thr Asp Gln Val Glu Asp Glu Lys Ser Ala Leu Gln Thr Glu Ile  
20 25 30  
Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala  
35 40 45  
His Gly Gly Cys  
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Met Lys Lys Thr Ala Ile Ala Ile Ala Val  
1 5 10

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Ala Leu Ala Gly Phe Ala Thr Val Ala Gln Ala Cys Gly Gly Leu Thr
      15      20      25

gac acc ctg cag gcg gaa acc gac cag gtg gaa gac gaa aaa tcc gcg 147
Asp Thr Leu Gln Ala Glu Thr Asp Gln Val Glu Asp Glu Lys Ser Ala
      30      35      40

ctg caa acc gaa atc gcg aac ctg ctg aaa gaa aaa gaa aag ctg gag 195
Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu
      45      50      55

ttc atc ctg gcg gca cac ggt ggt tgc ggt ggt tct gcg gcc gct 240
Phe Ile Leu Ala Ala His Gly Gly Cys Gly Gly Ser Ala Ala Ala
      60      65      70

gggtgtgggg atatcaagct t 261

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<210> 21  
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<220>  
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<400> 21
Met Lys Lys Thr Ala Ile Ala Ile Ala Val Ala Leu Ala Gly Phe Ala
  1      5      10      15

Thr Val Ala Gln Ala Cys Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu
      20      25      30

Thr Asp Gln Val Glu Asp Glu Lys Ser Ala Leu Gln Thr Glu Ile Ala
      35      40      45

Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala His
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Gly Gly Cys Gly Gly Ser Ala Ala Ala
      65      70

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<210> 22  
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<400> 22
gaattcagga ggtaaaaaga tatcgggtgt ggg gcg gcc gct tct ggt ggt tgc 54
Ala Ala Ala Ser Gly Gly Cys
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ggt ggt ctg acc gac acc ctg cag gcg gaa acc gac cag gtg gaa gac 102
Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr Asp Gln Val Glu Asp
      10      15      20

gaa aaa tcc gcg ctg caa acc gaa atc gcg aac ctg ctg aaa gaa aaa 150
Glu Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu Lys
      25      30      35

gaa aag ctg gag ttc atc ctg gcg gca cac ggt ggt tgc taagctt 196
Glu Lys Leu Glu Phe Ile Leu Ala Ala His Gly Gly Cys
      40      45      50

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<210> 23  
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<220>  
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<400> 23
Ala Ala Ala Ser Gly Gly Cys Gly Gly Leu Thr Asp Thr Leu Gln Ala
  1      5      10      15

Glu Thr Asp Gln Val Glu Asp Glu Lys Ser Ala Leu Gln Thr Glu Ile
      20      25      30

Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala
      35      40      45

His Gly Gly Cys
      50

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<210> 24  
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<400> 24
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accgaccagg tggaagacga aaaatccgcg ctgcaaaccg aaatcgcgaa cctgctgaaa 120
gaaaaagaaa agctggagtt catcctggcg gcacacgggtg gttgcggtgg ttctgcggcc 180
gctgggtgtg gggatatcaa gctt                                     204

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<210> 25  
 <211> 56  
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 <213> Artificial Sequence

<220>  
 <223> Fos fusion construct

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<400> 25
Lys Thr Met Ala Cys Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr
  1      5      10      15

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Asp Gln Val Glu Asp Glu Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn  
 20 25 30  
 Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala His Gly  
 35 40 45  
 Gly Cys Gly Gly Ser Ala Ala Ala  
 50 55

<210> 26  
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 <212> PRT  
 <213> Homo sapiens

<400> 26  
 Met Ala Thr Gly Ser Arg Thr Ser Leu Leu Leu Ala Phe Gly Leu Leu  
 1 5 10 15  
 Cys Leu Pro Trp Leu Gln Glu Gly Ser Ala  
 20 25

<210> 27  
 <211> 262  
 <212> DNA  
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<220>  
 <223> Fos fusion construct

<400> 27  
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 tgcctgccct ggcttcaaga gggcagcgct ggggtgtggg cggccgcttc tgggtggttgc 120  
 ggtggtctga ccgacaccct gcaggcggaa accgaccagg tggaagacga aaaatccgcg 180  
 ctgcaaaccg aaatcgcgaa cctgctgaaa gaaaaagaaa agctggagtt catcctggcg 240  
 gcacacggtg gttgctaagc tt 262

<210> 28  
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<400> 28  
 Ala Ala Ala Ser Gly Gly Cys Gly Gly Leu Thr Asp Thr Leu Gln Ala  
 5 10 15  
 Glu Thr Asp Gln Val Glu Asp Glu Lys Ser Ala Leu Gln Thr Glu Ile  
 20 25 30  
 Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala  
 35 40 45  
 His Gly Gly Cys  
 50

<210> 29

<211> 261  
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<400> 29  
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               1                          5                          10  
  
 ctg ctc tgc ctg ccc tgg ctt caa gag ggc agc gct tgc ggt ggt ctg 96  
 Leu Leu Cys Leu Pro Trp Leu Gln Glu Gly Ser Ala Cys Gly Gly Leu  
       15                          20                          25                          30  
  
 acc gac acc ctg cag gcg gaa acc gac cag gtg gaa gac gaa aaa tcc 144  
 Thr Asp Thr Leu Gln Ala Glu Thr Asp Gln Val Glu Asp Glu Lys Ser  
                           35                          40                          45  
  
 gcg ctg caa acc gaa atc gcg aac ctg ctg aaa gaa aaa gaa aag ctg 192  
 Ala Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu  
                           50                          55                          60  
  
 gag ttc atc ctg gcg gca cac ggt ggt tgc ggt ggt tct gcg gcc gct 240  
 Glu Phe Ile Leu Ala Ala His Gly Gly Cys Gly Gly Ser Ala Ala Ala  
                           65                          70                          75  
  
 ggggtgtggga ggcctaagct t 261

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 Cys Leu Pro Trp Leu Gln Glu Gly Ser Ala Cys Gly Gly Leu Thr Asp  
       20                          25                          30  
  
 Thr Leu Gln Ala Glu Thr Asp Gln Val Glu Asp Glu Lys Ser Ala Leu  
       35                          40                          45  
  
 Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe  
       50                          55                          60  
  
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<400> 32  
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44

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<400> 34  
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27

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<400> 38  
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<210> 42

<211> 58

<212> DNA

<213> Artificial Sequence

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<223> Primer

<400> 42

cgcaggcctc ggcactgccc tcttgaagcc agggcaggca gagcaggcca aaagccag 58

<210> 43

<211> 402

<212> DNA

<213> Artificial Sequence

<220>

<223> Modified bee venom phospholipase A2

<220>

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<222> (1)..(402)

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Ile	Ile	Tyr	Pro	Gly	Thr	Leu	Trp	Cys	Gly	His	Gly	Asn	Lys	Ser	Ser	
1				5				10					15			

ggt	ccg	aac	gaa	ctc	ggc	cgc	ttt	aaa	cac	acc	gac	gca	tgc	tgt	cgc	96
Gly	Pro	Asn	Glu	Leu	Gly	Arg	Phe	Lys	His	Thr	Asp	Ala	Cys	Cys	Arg	
		20					25						30			

acc	cag	gac	atg	tgt	ccg	gac	gtc	atg	tct	gct	ggt	gaa	tct	aaa	cac	144
Thr	Gln	Asp	Met	Cys	Pro	Asp	Val	Met	Ser	Ala	Gly	Glu	Ser	Lys	His	
		35					40					45				

ggg	tta	act	aac	acc	gct	tct	cac	acg	cgt	ctc	agc	tgc	gac	tgc	gac	192
Gly	Leu	Thr	Asn	Thr	Ala	Ser	His	Thr	Arg	Leu	Ser	Cys	Asp	Cys	Asp	
	50					55					60					

gac	aaa	ttc	tac	gac	tgc	ctt	aag	aac	tcc	gcc	gat	acc	atc	tct	tct	240
Asp	Lys	Phe	Tyr	Asp	Cys	Leu	Lys	Asn	Ser	Ala	Asp	Thr	Ile	Ser	Ser	
65					70				75					80		

tac	ttc	gtt	ggt	aaa	atg	tat	ttc	aac	ctg	atc	gat	acc	aaa	tgt	tac	288
Tyr	Phe	Val	Gly	Lys	Met	Tyr	Phe	Asn	Leu	Ile	Asp	Thr	Lys	Cys	Tyr	
			85						90					95		

aaa	ctg	gaa	cac	ccg	gta	acc	ggc	tgc	ggc	gaa	cgt	acc	gaa	ggt	cgc	336
Lys	Leu	Glu	His	Pro	Val	Thr	Gly	Cys	Gly	Glu	Arg	Thr	Glu	Gly	Arg	
			100					105					110			

tgc	ctg	cac	tac	acc	gtt	gac	aaa	tct	aaa	ccg	aaa	gtt	tac	cag	tgg	384
Cys	Leu	His	Tyr	Thr	Val	Asp	Lys	Ser	Lys	Pro	Lys	Val	Tyr	Gln	Trp	



115 120 125 402  
 ttc gac ctg cgc aaa tac  
 Phe Asp Leu Arg Lys Tyr  
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<210> 44  
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<220>  
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<400> 44  
 Ile Ile Tyr Pro Gly Thr Leu Trp Cys Gly His Gly Asn Lys Ser Ser  
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 Gly Pro Asn Glu Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg  
 20 25 30  
 Thr Gln Asp Met Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His  
 35 40 45  
 Gly Leu Thr Asn Thr Ala Ser His Thr Arg Leu Ser Cys Asp Cys Asp  
 50 55 60  
 Asp Lys Phe Tyr Asp Cys Leu Lys Asn Ser Ala Asp Thr Ile Ser Ser  
 65 70 75 80  
 Tyr Phe Val Gly Lys Met Tyr Phe Asn Leu Ile Asp Thr Lys Cys Tyr  
 85 90 95  
 Lys Leu Glu His Pro Val Thr Gly Cys Gly Glu Arg Thr Glu Gly Arg  
 100 105 110  
 Cys Leu His Tyr Thr Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp  
 115 120 125  
 Phe Asp Leu Arg Lys Tyr  
 130

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<400> 45  
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<210> 46  
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<400> 46  
cccacaccca gcggccgcgt atttgcgag gtcg

34

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<400> 47  
cggtggttct gcggccgcta tcattaccc aggtac

36

<210> 48  
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<400> 48  
ttagtatttg cgcaggtcg

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<210> 50  
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accaccagaa gcggccgcag gggaaacaca tctgcc

36

<210> 51  
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<400> 51  
cggtggttct gcggccgctg gctccatcgg tgcag 35

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<400> 52  
ttaaggggaa acacatctgc c 21

<210> 53  
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<400> 53  
actagtctag aatgagagtg aaggagaaat atc 33

<210> 54  
<211> 42  
<212> DNA  
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<400> 54  
tagcatgcta gcaccgaatt tatctaattc caataattct tg 42

<210> 55  
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<220>  
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<400> 55  
gtagcaccca ccaaggcaaa gctgaaagct acccagctcg agaaactggc a 51

<210> 56  
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<220>  
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<400> 56  
caaagtcct attcccactg ccagtttctc gagctgggta gctttcag 48

<210> 57  
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<400> 57  
ttcgggtgcta gcggtggctg cggtgggtctg accgac 36

<210> 58  
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<400> 58  
gatgctgggc ccttaaccgc aaccaccgtg tgccgcc 37

<210> 59  
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<212> PRT  
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<220>  
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<400> 59  
Cys Gly Gly Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys  
1 5 10 15  
Ala Gln Asn Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln  
20 25 30  
Val Ala Gln Leu Lys Gln Lys Val Met Asn His Val Gly Cys  
35 40 45

<210> 60  
<211> 46  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> FOS amino acid sequence

<400> 60  
Cys Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr Asp Gln Val Glu  
1 5 10 15  
Asp Glu Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu  
20 25 30  
Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala His Gly Gly Cys  
35 40 45

<210> 61  
<211> 33  
<212> DNA  
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<220>  
<223> Primer

<400> 61  
ccggaattca tgtgcggtgg tcggatcgcc cgg

33

<210> 62  
<211> 39  
<212> DNA  
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<220>  
<223> Primer

<400> 62  
gtcgctaccc gcggctccgc aaccaacgtg gttcatgac

39

<210> 63  
<211> 50  
<212> DNA  
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<220>  
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<400> 63  
gttggttgcg gagccgcggg tagcgacatt gacccttata aagaatttgg

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<210> 64  
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cgcggtcccaa gcttctacgg aagcgttgat aggatagg

38

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<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 65  
ctagccgcgg gttgcggtgg tcggatcgcc cgg

33

<210> 66  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 66  
cgcgctcccaa gcttttagca accaacgtgg ttcatgac

38

<210> 67  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 67  
ccggaattca tggacattga cccttataaa g

31

<210> 68  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 68  
ccgaccaccg caaccgcgg ctagcggaag cgttgatagg atagg

45

<210> 69  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 69  
ctaattgatc cgggtgggggc tgcggtggtc ggatcgcccg gctcgag

47

<210> 70  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 70  
gtcgctaccc gcggctccgc aaccaacgtg gttcatgac

39

<210> 71  
<211> 31

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 71  
ccggaattca tggacattga ccottataaa g

31

<210> 72  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 72  
ccgaccaccg cagccccac cggatccatt agtaccacc caggtagc

48

<210> 73  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 73  
gttggttgcg gagccgcggg tagcgaccta gtagtcagtt atgtc

45

<210> 74  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 74  
cgcgccccaa gcttctacgg aagcgttgat aggatagg

38

<210> 75  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 75  
ctagccgcgg gttgcggtgg tcggatcgcc cgg

33

<210> 76  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 76  
cgcggtcccaa gcttttagca accaacgtgg ttcattgac

38

<210> 77  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 77  
ccggaattca tggccacact tttaaggagc

30

<210> 78  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 78  
cgcggtcccaa gcttttagca accaacgtgg ttcattgac

38

<210> 79  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 79  
ccggaattca tggacattga cccttataaa g

31

<210> 80  
<211> 51  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 80  
cctagagcca cctttgccac catcttctaa attagtacc acccaggtag c

51

<210> 81  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer



<400> 81  
gaagatggtg gcaaaggtgg ctctagggac ctagtagtca gttatgtc 48

<210> 82  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 82  
cgcgccccaa gcttctaaac aacagtagtc tccggaag 38

<210> 83  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 83  
gccgaattcc tagcagctag caccgaattt atctaa 36

<210> 84  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 84  
ggttaagtcg acatgagagt gaaggagaaa tat 33

<210> 85  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 85  
taaccgaatt caggaggtaa aaagatatgg 30

<210> 86  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Primer

<400> 86  
gaagtaaagc ttttaaccac cgcaaccacc agaag 35

<210> 87  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 87  
tcgaatgggc cctcatcttc gtgtgctagt cag 33

<210> 88  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Fos fusion construct

<400> 88  
Glu Phe Arg Arg  
1

<210> 89  
<211> 183  
<212> PRT  
<213> Hepatitis B virus

<400> 89  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60  
Leu Met Thr Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Ile  
65 70 75 80  
Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95  
Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110  
Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125  
Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro

130 135 140  
Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
145 150 155 160  
Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165 170 175  
Gln Ser Arg Gly Ser Gln Cys  
180

<210> 90  
<211> 183  
<212> PRT  
<213> Hepatitis B virus

<400> 90  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60  
Leu Met Thr Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Thr  
65 70 75 80  
Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95  
Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110  
Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125  
Pro Pro Ala Tyr Arg Pro Thr Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140  
Glu Thr Cys Val Ile Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
145 150 155 160  
Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165 170 175  
Gln Ser Arg Gly Ser Gln Cys  
180

<210> 91  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 91  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr

1	5	10	15
Val	Gln	Ala	Ser
	20		
Lys	Leu	Cys	Leu
		25	
Trp	Leu	Trp	Gly
			30
Met	Asp	Ile	
Asp	Pro	Tyr	Lys
	35		
Glu	Phe	Gly	Ala
		40	
Thr	Val	Glu	Leu
			45
Leu	Ser	Phe	Leu
Pro	Ser	Asp	Phe
	50		
Phe	Phe	Pro	Ser
		55	
Val	Arg	Asp	Leu
			60
Leu	Leu	Asp	Thr
Ala	Ser	Pro	Glu
			75
His	Cys	Ser	Pro
			80
His	Thr	Ala	Leu
Arg	Gln	Ala	Ile
	85		
Leu	Cys	Trp	Gly
	90		
Glu	Leu	Met	Thr
			95
Leu	Ala	Thr	Trp
			100
Val	Gly	Gly	Asn
			105
Leu	Glu	Asp	Pro
			110
Ile	Ser	Arg	Asp
Leu	Val	Val	Ser
			115
Tyr	Val	Asn	Thr
			120
Asn	Met	Gly	Leu
			125
Lys	Phe	Arg	Gln
Leu	Leu	Trp	Phe
			130
His	Ile	Ser	Cys
			135
Leu	Thr	Phe	Gly
			140
Arg	Glu	Thr	Val
Ile	Glu	Tyr	Leu
			145
Val	Ser	Phe	Gly
			150
Trp	Ile	Arg	Thr
			155
Pro	Pro	Ala	
			160
Tyr	Arg	Pro	Pro
			165
Asn	Ala	Pro	Ile
			170
Leu	Ser	Thr	Leu
			175
Pro	Glu	Thr	Thr
Val	Val	Arg	Arg
			180
Arg	Arg	Arg	Arg
			185
Ser	Pro	Arg	Arg
			190
Thr	Pro	Ser	Pro
Arg	Arg	Arg	Arg
			195
Ser	Gln	Ser	Arg
			200
Ser	Gln	Ser	Arg
			205
Glu	Ser	Gln	Cys
			210

<210> 92  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 92
Met
1
Gln
Leu
Phe
5
His
Leu
Cys
Leu
Ile
10
Ile
Ser
Cys
Ser
Cys
15
Pro
Thr
Val
Gln
Ala
20
Ser
Lys
Leu
Cys
Leu
25
Gly
Trp
Leu
Trp
Gly
30
Met
Asp
Ile
Asp
Pro
Tyr
35
Lys
Glu
Phe
Gly
40
Ala
Thr
Val
Glu
Leu
45
Leu
Ser
Phe
Leu
Pro
Ser
Asp
Phe
Phe
Pro
Ser
55
Val
Arg
Asp
Leu
60
Leu
Asp
Asn
Ala
Ser
Ala
Leu
Tyr
Arg
Glu
Ala
70
Leu
Glu
Ser
Pro
Glu
75
His
Cys
Ser
Pro
His
80
65

His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr  
85 90 95

Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Ile Ser Arg Asp  
100 105 110

Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125

Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140

Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160

Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175

Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190

Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205

Glu Ser Gln Cys  
210

<210> 93  
<211> 183  
<212> PRT  
<213> Hepatitis B virus

<400> 93  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Thr Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala  
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Cys Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr

145		150		155		160								
Pro	Ser	Pro	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser
			165					170					175	
Gln	Ser	Arg	Glu	Ser	Gln	Cys								
			180											

<210> 94  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 94	Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro	Thr
	1				5					10					15	
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile	
			20					25					30			
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu	
		35					40					45				
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser	
	50					55					60					
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His	
	65				70					75					80	
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Asp	Leu	Met	Thr	
				85					90					95		
Leu	Ala	Thr	Trp	Val	Gly	Gly	Asn	Leu	Glu	Asp	Pro	Val	Ser	Arg	Asp	
			100					105					110			
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Val	Gly	Leu	Lys	Phe	Arg	Gln	
		115					120					125				
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val	
	130					135					140					
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro	Ala	
145					150					155					160	
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr	Thr	
				165					170					175		
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro	
			180					185					190			
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Arg	
		195					200					205				
Glu	Ser	Gln	Cys													
	210															

<210> 95  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 95  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15  
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Asp Met Asp Ile  
20 25 30  
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45  
Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
50 55 60  
Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
65 70 75 80  
His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp Leu Met Thr  
85 90 95  
Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Val Ser Arg Asp  
100 105 110  
Leu Val Val Ser Tyr Val Asn Thr Asn Val Gly Leu Lys Phe Arg Gln  
115 120 125  
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140  
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160  
Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175  
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190  
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205  
Glu Ser Gln Cys  
210

<210> 96  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 96  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15  
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
20 25 30  
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45  
Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
50 55 60

Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	Gln
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	Leu	Met	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Gly	Asn	Leu	Glu	Asp	Pro	Ile	Ser	Arg	Asp
			100					105					110		
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	Phe	Arg	Gln
		115					120					125			
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val
	130					135					140				
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro	Ala
145					150					155					160
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr	Thr
				165					170					175	
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro
			180					185					190		
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Arg
		195					200					205			
Glu	Ser	Gln	Cys												
	210														

<210> 97  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 97															
Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro	Thr
1				5					10					15	
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile
			20					25					30		
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	Leu	Met	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	Ser	Arg	Asp
			100					105					110		
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	Phe	Arg	Gln
		115					120					125			
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val



130		135		140
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala				
145		150		155
Tyr Lys Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr				
		165		170
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro				
		180		185
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg				
		195		200
Gly Ser Gln Cys				
210				

<210> 98  
 <211> 183  
 <212> PRT  
 <213> Hepatitis B virus

<400> 98
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30
Thr Ala Ser Ala Leu Phe Arg Asp Ala Leu Glu Ser Pro Glu His Cys
35 40 45
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60
Leu Met Thr Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Ala
65 70 75 80
Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys
85 90 95
Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
100 105 110
Asp Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
115 120 125
Pro Pro Ala Tyr Arg Pro Ser Asn Ala Pro Ile Leu Ser Thr Leu Pro
130 135 140
Glu Thr Cys Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr
145 150 155 160
Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser
165 170 175
Gln Ser Arg Glu Ser Gln Cys
180

<210> 99

<211> 183  
 <212> PRT  
 <213> Hepatitis B virus

<400> 99  
 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
   1                  5         10                 15  
 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
          20                 25                 30  
 Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
          35                 40                 45  
 Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
       50                 55                 60  
 Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala  
   65                 70                 75                 80  
 Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
          85                 90                 95  
 Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
          100                 105                 110  
 Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
          115                 120                 125  
 Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
   130                 135                 140  
 Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
  145                 150                 155                 160  
 Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
          165                 170                 175  
 Gln Ser Arg Glu Ser Gln Cys  
          180

<210> 100  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 100  
 Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
   1                  5         10                 15  
 Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
          20                 25                 30  
 Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
          35                 40                 45  
 Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
       50                 55                 60  
 Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
   65                 70                 75                 80

His Thr Ala Leu Arg His Ala Ile Leu Cys Trp Gly Asp Leu Arg Thr  
85 90 95  
Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Ile Ser Arg Asp  
100 105 110  
Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125  
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140  
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160  
Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175  
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190  
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205  
Glu Ser Gln Cys  
210

<210> 101  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 101  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15  
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Asp Met Asp Ile  
20 25 30  
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45  
Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
50 55 60  
Ala Leu Phe Arg Asp Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
65 70 75 80  
His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr  
85 90 95  
Leu Ala Thr Trp Val Gly Ala Asn Leu Glu Asp Pro Ala Ser Arg Asp  
100 105 110  
Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125  
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140  
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Gln Ala

145					150					155					160	
Tyr	Arg	Pro	Pro	Asn 165	Ala	Pro	Ile	Leu	Ser 170	Thr	Leu	Pro	Glu	Thr 175	Cys	
Val	Val	Arg	Arg 180	Arg	Gly	Arg	Ser	Pro 185	Arg	Arg	Arg	Thr	Pro 190	Ser	Pro	
Arg	Arg	Arg 195	Arg	Ser	Gln	Ser	Pro 200	Arg	Arg	Arg	Arg	Ser 205	Gln	Ser	Arg	
Glu	Ser 210	Gln	Cys													

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<210> 102
<211> 183
<212> PRT
<213> Artificial Sequence
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<220>  
<223> synthetic human Hepatitis B construct

[illegible]

<210> 103

<211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 103  
 Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
   1                  5                  10                  15  
 Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
                   20                  25                  30  
 Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
                   35                  40                  45  
 Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
                   50                  55                  60  
 Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
   65                  70                  75                  80  
 His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp Leu Met Ser  
                   85                  90                  95  
 Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ile Ser Arg Asp  
                   100                  105                  110  
 Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
                   115                  120                  125  
 Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
   130                  135                  140  
 Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
 145                  150                  155                  160  
 Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
                   165                  170                  175  
 Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
                   180                  185                  190  
 Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
                   195                  200                  205  
 Glu Ser Gln Cys  
   210

<210> 104  
 <211> 183  
 <212> PRT  
 <213> Hepatitis B virus

<400> 104  
 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
   1                  5                  10                  15  
 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
                   20                  25                  30  
 Thr Ala Ser Ala Leu Tyr Arg Asp Ala Leu Glu Ser Pro Glu His Cys  
                   35                  40                  45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala  
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
145 150 155 160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165 170 175

Gln Ser Arg Glu Ser Gln Cys  
180

<210> 105  
<211> 183  
<212> PRT  
<213> Hepatitis B virus

<400> 105  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala  
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr

145                      150                      155                      160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
                        165                      170                      175

Gln Ser Arg Glu Ser Gln Cys  
180

```
<210> 106
<211> 183
<212> PRT
<213> Hepatitis B virus
```

```
<400> 106
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1           5           10           15
```

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Asp Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Ala Asn Leu Glu Asp Pro Ala  
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Thr Pro Arg Arg Arg Thr  
145 150 155 160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165 170 175

Gln Ser Arg Glu Ser Gln Cys  
180

```
<210> 107
<211> 212
<212> PRT
<213> Hepatitis B virus
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```
<400> 107
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr
  1                   5                10              15
```

Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile

20					25					30					
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Asp	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	Leu	Met	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	Ser	Arg	Asp
			100					105					110		
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	Phe	Arg	Gln
		115					120					125			
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val
	130					135					140				
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro	Ala
145						150					155				160
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr	Thr
				165					170					175	
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro
			180					185					190		
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Arg
		195					200					205			
Glu	Ser	Gln	Cys												
	210														

<210> 108  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 108															
Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro	Thr
1				5					10					15	
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile
			20					25					30		
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Asp	Leu	Met	Thr
				85					90					95	



Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp  
100 105 110

Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125

Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140

Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160

Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175

Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190

Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205

Glu Ser Gln Cys  
210

<210> 109  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 109  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Thr Cys Pro Thr  
1 5 10 15

Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
20 25 30

Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45

Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
50 55 60

Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
65 70 75 80

His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr  
85 90 95

Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp  
100 105 110

Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125

Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140

Ile Glu Tyr Leu Val Ala Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160

Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr

				165					170					175
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser
			180					185					190	Pro
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser
		195					200					205		Arg
Glu	Ser	Gln	Cys											
	210													

<210> 110  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 110														
Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro
1				5					10					15
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp
			20					25					30	Ile
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe
		35					40					45		Leu
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala
	50					55					60			Ser
Ala	Leu	Tyr	Arg	Glu	Ala	Phe	Glu	Cys	Ser	Glu	His	Cys	Ser	Pro
65					70					75				80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	Leu	Met
				85					90					95
Leu	Ala	Thr	Trp	Val	Gly	Gly	Asn	Leu	Glu	Asp	Pro	Ile	Ser	Arg
			100					105					110	Asp
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	Phe	Arg
		115					120					125		Gln
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr
	130					135					140			Val
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro
145					150					155				Ala
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr
				165					170					175
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser
			180					185					190	Pro
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser
		195					200					205		Arg
Glu	Ser	Gln	Cys											
	210													

<210> 111  
 <211> 212

<212> PRT  
<213> Hepatitis B virus

<220>  
<221> UNSURE  
<222> 28  
<223> Xaa may be any amino acid.

<400> 111  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15  
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Xaa Asp Met Asp Ile  
20 25 30  
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45  
Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
50 55 60  
Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
65 70 75 80  
His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp Leu Ile Thr  
85 90 95  
Leu Ser Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Thr Ser Arg Asp  
100 105 110  
Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125  
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140  
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160  
Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175  
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190  
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Thr Gln Ser Arg  
195 200 205  
Glu Ser Gln Cys  
210

<210> 112  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 112  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15

Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile
			20					25					30		
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Asn	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	Leu	Met	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	Ser	Arg	Asp
			100					105					110		
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	Phe	Arg	Gln
		115					120					125			
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val
		130				135					140				
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro	Ala
145					150					155					160
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr	Thr
				165					170					175	
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro
			180					185					190		
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Arg
		195					200					205			
Glu	Ser	Gln	Cys												
		210													

<210> 113  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 113

Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro	Thr
1				5					10					15	
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile
			20					25					30		
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80

His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr  
85 90 95  
Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp  
100 105 110  
Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125  
Leu Leu Trp Phe His Ile Cys Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140  
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160  
Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175  
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190  
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205  
Glu Ser Gln Cys  
210

<210> 114  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 114  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15  
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
20 25 30  
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45  
Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
50 55 60  
Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
65 70 75 80  
His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr  
85 90 95  
Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp  
100 105 110  
Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125  
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140  
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala

145				150				155				160			
Tyr	Arg	Pro	Pro	Asn 165	Ala	Pro	Ile	Leu	Ser 170	Thr	Leu	Pro	Glu	Thr 175	Thr
Val	Val	Arg	Arg 180	Arg	Gly	Arg	Ser	Pro 185	Arg	Arg	Arg	Thr	Pro 190	Ser	Pro
Arg	Arg	Arg 195	Arg	Ser	Gln	Ser	Pro 200	Arg	Arg	Arg	Arg	Ser 205	Gln	Ser	Arg
Glu	Pro 210	Gln	Cys												

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<210> 115
<211> 212
<212> PRT
<213> Hepatitis B virus
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[illegible]

210

<210> 116  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 116  
 Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
 1 5 10 15  
 Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
 20 25 30  
 Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
 35 40 45  
 Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
 50 55 60  
 Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
 65 70 75 80  
 His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr  
 85 90 95  
 Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp  
 100 105 110  
 Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
 115 120 125  
 Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
 130 135 140  
 Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
 145 150 155 160  
 Tyr Arg Pro Pro Asn Ala Pro Ile Leu Leu Thr Leu Pro Glu Thr Thr  
 165 170 175  
 Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
 180 185 190  
 Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
 195 200 205  
 Glu Ser Gln Cys  
 210

<210> 117  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 117  
 Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
 1 5 10 15  
 Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile

20					25					30					
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Asp	Leu	Met	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	Ser	Arg	Asp
			100					105					110		
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	Phe	Lys	Gln
		115					120					125			
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val
	130					135					140				
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro	Ala
145						150					155				160
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr	Thr
				165					170					175	
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro
			180					185					190		
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Arg
		195					200					205			
Glu	Ser	Gln	Cys												
	210														

<210> 118  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 118

Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro	Thr
1				5					10					15	
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile
			20					25					30		
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ala
	50					55					60				
Ala	Leu	Tyr	Arg	Asp	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	Leu	Met	Thr
				85					90					95	



Leu Ala Thr Trp Val Gly Thr Asn Leu Glu Asp Pro Ala Ser Arg Asp  
100 105 110

Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125

Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140

Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160

Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175

Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190

Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205

Glu Ser Gln Cys  
210

<210> 119  
<211> 183  
<212> PRT  
<213> Hepatitis B virus

<400> 119  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Ser Met Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Tyr Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Thr Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Gly Asn Leu Gln Asp Pro Thr  
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Val Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Val Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Gln Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Cys Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
145 150 155 160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Ser

	165	170	175
Gln Ser Arg Glu Ser Gln Cys			
180			
<210> 120			
<211> 183			
<212> PRT			
<213> Hepatitis B virus			
<400> 120			
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu			
1 5 10 15			
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp			
20 25 30			
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys			
35 40 45			
Ser Pro His His Thr Ala Leu Arg His Val Phe Leu Cys Trp Gly Asp			
50 55 60			
Leu Met Thr Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Thr			
65 70 75 80			
Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys			
85 90 95			
Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg			
100 105 110			
Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr			
115 120 125			
Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro			
130 135 140			
Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr			
145 150 155 160			
Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser			
165 170 175			

Gln Ser Arg Glu Ser Gln Cys  
180

<210> 121  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 121

Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr			
1 5 10 15			
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile			
20 25 30			
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu			

35					40					45					
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Asp	Leu	Thr	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	Ser	Arg	Asp
			100					105					110		
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	Phe	Arg	Gln
		115					120					125			
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val
	130					135					140				
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro	Ala
145					150					155					160
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr	Thr
				165					170					175	
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro
			180					185					190		
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Arg
		195					200					205			
Glu	Ser	Gln	Cys												
	210														

<210> 122  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 122															
Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro	Thr
1				5					10					15	
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile
			20					25					30		
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Asp	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	Leu	Met	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	Ser	Arg	Asp
			100					105					110		

Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln  
115 120 125

Leu Leu Trp Phe His Ile Ser Cys Leu Ile Phe Gly Arg Glu Thr Val  
130 135 140

Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160

Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175

Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190

Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205

Glu Ser Gln Cys  
210

<210> 123  
<211> 183  
<212> PRT  
<213> Hepatitis B virus

<400> 123

Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Val  
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Val Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
145 150 155 160

Pro Ser Pro Ala Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165 170 175

Gln Ser Arg Glu Ser Gln Cys

180

<210> 124  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 124  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15  
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
20 25 30  
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45  
Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
50 55 60  
Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
65 70 75 80  
His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp Leu Met Asn  
85 90 95  
Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Val Ser Arg Asp  
100 105 110  
Leu Val Val Gly Tyr Val Asn Thr Thr Val Gly Leu Lys Phe Arg Gln  
115 120 125  
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140  
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160  
Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175  
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190  
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205  
Glu Ser Gln Cys  
210

<210> 125  
<211> 183  
<212> PRT  
<213> Hepatitis B virus

<400> 125  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp

20					25					30					
Thr	Ala	Ser	Ala	Leu	Tyr	Arg	Asp	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys
		35					40					45			
Ser	Pro	His	His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Asp
	50					55					60				
Leu	Met	Thr	Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala
65					70					75					80
Ser	Arg	Asp	Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys
				85					90					95	
Phe	Arg	Gln	Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg
			100					105					110		
Glu	Thr	Val	Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr
		115					120					125			
Pro	Pro	Ala	Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro
	130					135					140				
Glu	Thr	Thr	Val	Val	Arg	Arg	Arg	Gly	Arg	Thr	Pro	Arg	Arg	Arg	Thr
145					150					155					160
Pro	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser
				165					170					175	
Gln	Ser	Arg	Glu	Ser	Gln	Cys									
			180												

<210> 126  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 126

Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro	Thr
1				5					10					15	
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile
			20					25					30		
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Ala	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70				75					80	
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	Leu	Met	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	Ser	Arg	Asp
			100					105					110		
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	Phe	Arg	Gln
		115					120					125			

Ile	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val
130						135					140				
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro	Ala
145					150					155					160
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr	Thr
				165					170					175	
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro
			180					185					190		
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Arg
		195					200					205			
Glu	Ser	Gln	Cys												
210															

<210> 127  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 127

Met	Gln	Leu	Phe	His	Leu	Cys	Leu	Ile	Ile	Ser	Cys	Ser	Cys	Pro	Thr
1				5					10					15	
Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Gly	Met	Asp	Ile
			20					25					30		
Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	Ser	Phe	Leu
		35					40					45			
Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	Thr	Ala	Ser
	50					55					60				
Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	Ser	Pro	His
65					70					75					80
His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Asp	Leu	Met	Thr
				85					90					95	
Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	Thr	Arg	Asp
			100					105					110		
Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Val	Gly	Leu	Lys	Phe	Arg	Gln
		115					120					125			
Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	Glu	Thr	Val
		130				135					140				
Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	Pro	Pro	Ala
145					150					155					160
Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	Glu	Thr	Thr
				165					170					175	
Val	Val	Arg	Arg	Arg	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro
			180					185					190		
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Arg

195	200	205
Glu Ser Gln Cys 210		
<p>&lt;210&gt; 128            &lt;211&gt; 212            &lt;212&gt; PRT            &lt;213&gt; Hepatitis B virus</p>		
<p>&lt;400&gt; 128</p>		
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr 1 5 10 15		
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile 20 25 30		
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu 35 40 45		
Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser 50 55 60		
Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His 65 70 75 80		
His Thr Ala Leu Arg Gln Arg Ile Leu Cys Trp Gly Glu Leu Met Thr 85 90 95		
Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp 100 105 110		
Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln 115 120 125		
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val 130 135 140		
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala 145 150 155 160		
Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr 165 170 175		
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro 180 185 190		
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Thr Arg Ser Gln Ser Arg 195 200 205		
Glu Ser Gln Cys 210		

<210> 129  
 <211> 212  
 <212> PRT  
 <213> Hepatitis B virus

<400> 129



Met Gln Leu Phe His Leu Cys Leu Val Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15  
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
20 25 30  
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45  
Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ala  
50 55 60  
Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His  
65 70 75 80  
His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr  
85 90 95  
Leu Ala Thr Trp Val Gly Asn Asn Leu Glu Asp Pro Ala Ser Arg Asp  
100 105 110  
Leu Val Val Asn Tyr Val Asn Thr Asn Met Gly Leu Lys Ile Arg Gln  
115 120 125  
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val  
130 135 140  
Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala  
145 150 155 160  
Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr  
165 170 175  
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro  
180 185 190  
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg  
195 200 205  
Glu Ser Gln Cys  
210

<210> 130  
<211> 212  
<212> PRT  
<213> Hepatitis B virus

<400> 130  
Met Gln Leu Phe His Leu Cys Leu Ile Ile Ser Cys Ser Cys Pro Thr  
1 5 10 15  
Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile  
20 25 30  
Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu  
35 40 45  
Pro Ser Ala Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser  
50 55 60  
Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His

65		70		75		80
His Thr Ala Leu Arg	Gln Ala Ile Leu Cys	Trp Gly Asp Leu Met Thr				
	85		90		95	
Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp						
	100		105		110	
Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln						
	115		120		125	
Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val						
	130		135		140	
Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala						
	145		150		155	160
Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr						
	165		170		175	
Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro						
	180		185		190	
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg						
	195		200		205	
Glu Ser Gln Cys						
	210					

<210> 131  
 <211> 183  
 <212> PRT  
 <213> Hepatitis B virus

<400> 131

Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu														
1			5			10						15		
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp														
	20				25						30			
Thr Ala Ala Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys														
	35				40				45					
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu														
	50			55				60						
Leu Met Thr Leu Ala Thr Trp Val Gly Asn Asn Leu Glu Asp Pro Ala														
	65		70			75						80		
Ser Arg Asp Leu Val Val Asn Tyr Val Asn Thr Asn Met Gly Leu Lys														
	85				90						95			
Ile Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg														
	100				105						110			
Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr														
	115				120				125					
Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro														
	130				135				140					

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
145 150 155 160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165 170 175

Gln Ser Arg Glu Ser Gln Cys  
180

<210> 132

<211> 183

<212> PRT

<213> Hepatitis B virus

<400> 132

Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Gly Asn Leu Glu Asp Pro Ile  
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Cys Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
145 150 155 160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165 170 175

Gln Ser Arg Gly Ser Gln Cys  
180

<210> 133

<211> 3221

<212> DNA

<213> Hepatitis B virus

<220>

<221> CDS

<222> (1901)..(2458)

<400> 133

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aatctccgcg aggactgggg accctgtgac gaacatggag aacatcacat caggattcct 180  
aggacccctg ctctgtgttac aggcgggggtt tttattgttg acaagaatcc tcacaatacc 240  
gcagagtcta gactcgtggg ggacttctct caattttata gggggatcac ccgtgtgtct 300  
tggccaaaat tcgcagtccc caacctccaa tctctacca acctcctgtc ctccaatttg 360  
tcctgggttat cgctggatgt gtctgcggcg ttttatcata ttcctcttca tcctgctgct 420  
atgcctcatc ttcttattgg ttcttctgga ttatcaaggt atgttgcccg tttgtcctct 480  
aattccagga tcaacaacaa ccagtaacgg accatgcaaa acctgcacga ctctgctca 540  
aggcaactct atgtttccct catgttgctg taaaaaacct acggttgga attgcacctg 600  
tattcccatc ccatcgtcct gggctttcgc aaaataccta tgggagtggg cctcagtccg 660  
tttctcttgg ctctgtttac tagtgccatt tgttcagtgg ttcgtagggc tttccccac 720  
tgtttggtt tcagctatat ggatgatgtg gtattggggg ccaagtctgt acagcatcgt 780  
gagtccttt ataccgtgt taccaatttt cttttgtctc tgggtataca tttaaaccct 840  
aacaaaacaa aaagatgggg ttattcccta aacttcatgg gttacataat tggaagttgg 900  
ggaacattgc cacaggatca tattgtacaa aagatcaaac actgttttag aaaacttcct 960  
gttaacaggc ctattgattg gaaagtatgt caagaattg tgggtctttt gggctttgct 1020  
gctccattta cacaatgtgg atatcctgcc ttaatgcctt tgtatgcatg tatacaggct 1080  
aaacaggctt tcaactttct gccaaacttac aaggcctttc taagtaaaca gtacatgaac 1140  
ctttaccccg ttgctcggca acggcctggg ctgtgccaag tgtttgctga cgcaaccccc 1200  
actggttggg gcttggccat aggccatcag cgcagtgtg gaacctttgt ggctcctctg 1260  
ccgatccata ctgcggaact cctagccgct tgtattgctc gcagccggtc tggagcaaag 1320  
ctcatcggaa ctgacaattc tgtcgtcctc tcgcggaaat atacatcgtt tccatggctg 1380  
ctaggctgta ctgccaaactg gatccttcgc gggacgtcct ttgtttacgt cccgtcggcg 1440  
ctgaatcccg cggacgacct ctctcggggc cgcttgggac tctatcgtcc ccttctccgt 1500  
ctgccgttcc agccgaccac ggggcgcacc tctctttacg cggctctccc gtctgtgcct 1560  
tctcatctgc cggtcctgtg gcaactcgtc tcacctctgc acgttgcatg gagaccaccg 1620  
tgaacgcca tcagatcctg cccaaggtct tacataagag gactcttgga ctcccagcaa 1680  
tgtcaacgac cgaccttgag gcctacttca aagactgtgt gtttaaggac tgggaggagc 1740  
tgggggagga gattaggtta aaggtctttg tattaggagg ctgtaggcat aaattggtct 1800  
gcgcaccagc accatgcaac tttttcacct ctgcctaata atctcttgta catgtcccac 1860

tgttcaagcc tccaagctgt gccttgggtg gctttggggc	atg gac att gac cct	1915
	Met Asp Ile Asp Pro	
	1 5	
tat aaa gaa ttt gga gct act gtg gag tta ctc tcg ttt ttg cct tct	1963	
Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu Pro Ser		
	10 15 20	
gac ttc ttt cct tcc gtc aga gat ctc cta gac acc gcc tca gct ctg	2011	
Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser Ala Leu		
	25 30 35	
tat cga gaa gcc tta gag tct cct gag cat tgc tca cct cac cat act	2059	
Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His His Thr		
	40 45 50	
gca ctc agg caa gcc att ctc tgc tgg ggg gaa ttg atg act cta gct	2107	
Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr Leu Ala		
	55 60 65	
acc tgg gtg ggt aat aat ttg gaa gat cca gca tcc agg gat cta gta	2155	
Thr Trp Val Gly Asn Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Val		
	70 75 80 85	
gtc aat tat gtt aat act aac atg ggt tta aag atc agg caa cta ttg	2203	
Val Asn Tyr Val Asn Thr Asn Met Gly Leu Lys Ile Arg Gln Leu Leu		
	90 95 100	
tgg ttt cat ata tct tgc ctt act ttt gga aga gag act gta ctt gaa	2251	
Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val Leu Glu		
	105 110 115	
tat ttg gtc tct ttc gga gtg tgg att cgc act cct cca gcc tat aga	2299	
Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala Tyr Arg		
	120 125 130	
cca cca aat gcc cct atc tta tca aca ctt ccg gaa act act gtt gtt	2347	
Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr Val Val		
	135 140 145	
aga cga cgg gac cga ggc agg tcc cct aga aga aga act ccc tcg cct	2395	
Arg Arg Arg Asp Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro		
	150 155 160 165	
cgc aga cgc aga tct caa tcg ccg cgt cgc aga aga tct caa tct cgg	2443	
Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg		
	170 175 180	
gaa tct caa tgt tag tattccttgg actcataagg tgggaaactt tactgggctt	2498	
Glu Ser Gln Cys		
	185	
tattcctcta cagtacctat ctttaatcct gaatggcaaa ctcccttcctt tcctaagatt	2558	
catttacaag aggacattat tgataggtgt caacaatttg tgggccctct cactgtaaat	2618	
gaaaagagaa gattgaaatt aattatgcct gctagattct atcctacca cactaaatat	2678	
ttgcccttag acaaaggaat taaaccttat tatccagatc aggtagttaa tcattacttc	2738	
caaaccagac attatttaca tactcttttg aaggctggta ttctatataa gagggaaacc	2798	

acacgtagcg catcattttg cgggtcacca tattcttggg aacaagagct acagcatggg 2858  
 aggttggtca ttaaaacctc gcaaaggcat ggggacgaat ctttctgttc ccaaccctct 2918  
 gggattcttt cccgatcatc agttggaccc tgcattcgga gccaaactcaa acaatccaga 2978  
 ttgggacttc aaccccatca aggaccactg gccagcagcc aaccaggtag gagtgggagc 3038  
 attcggggcca gggctcaccc ctccacacgg cgggtattttg ggggtggagcc ctgaggctca 3098  
 gggcatattg accacagtgt caacaattcc tcctcctgcc tccaccaatc ggcagtcagg 3158  
 aaggcagcct actcccatct ctccacctct aagagacagt catcctcagg ccatgcagtg 3218  
 gaa 3221

<210> 134  
 <211> 185  
 <212> PRT  
 <213> Hepatitis B virus

<400> 134  
 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
 1 5 10 15  
 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
 20 25 30  
 Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
 35 40 45  
 Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
 50 55 60  
 Leu Met Thr Leu Ala Thr Trp Val Gly Asn Asn Leu Glu Asp Pro Ala  
 65 70 75 80  
 Ser Arg Asp Leu Val Val Asn Tyr Val Asn Thr Asn Met Gly Leu Lys  
 85 90 95  
 Ile Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
 100 105 110  
 Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
 115 120 125  
 Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
 130 135 140  
 Glu Thr Thr Val Val Arg Arg Arg Asp Arg Gly Arg Ser Pro Arg Arg  
 145 150 155 160  
 Arg Thr Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg  
 165 170 175  
 Arg Ser Gln Ser Arg Glu Ser Gln Cys  
 180 185

<210> 135  
 <211> 188  
 <212> PRT  
 <213> Woodchuck hepatitis B virus

<400> 135  
 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ser Ser Tyr Gln Leu Leu  
 1 5 10 15  
 Asn Phe Leu Pro Leu Asp Phe Phe Pro Asp Leu Asn Ala Leu Val Asp  
 20 25 30

Thr	Ala	Thr	Ala	Leu	Tyr	Glu	Glu	Glu	Leu	Thr	Gly	Arg	Glu	His	Cys
		35					40					45			
Ser	Pro	His	His	Thr	Ala	Ile	Arg	Gln	Ala	Leu	Val	Cys	Trp	Asp	Glu
	50					55					60				
Leu	Thr	Lys	Leu	Ile	Ala	Trp	Met	Ser	Ser	Asn	Ile	Thr	Ser	Glu	Gln
65					70					75					80
Val	Arg	Thr	Ile	Ile	Val	Asn	His	Val	Asn	Asp	Thr	Trp	Gly	Leu	Lys
				85					90					95	
Val	Arg	Gln	Ser	Leu	Trp	Phe	His	Leu	Ser	Cys	Leu	Thr	Phe	Gly	Gln
			100					105					110		
His	Thr	Val	Gln	Glu	Phe	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr
		115					120					125			
Pro	Ala	Pro	Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro
	130					135					140				
Glu	His	Thr	Val	Ile	Arg	Arg	Arg	Gly	Gly	Ala	Arg	Ala	Ser	Arg	Ser
145					150					155					160
Pro	Arg	Arg	Arg	Thr	Pro	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro
				165					170					175	
Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Ser	Thr	Asn	Cys				
				180				185							

<210> 136  
 <211> 217  
 <212> PRT  
 <213> Ground squirrel hepatitis virus

<400> 136															
Met	Tyr	Leu	Phe	His	Leu	Cys	Leu	Val	Phe	Ala	Cys	Val	Pro	Cys	Pro
1				5					10					15	
Thr	Val	Gln	Ala	Ser	Lys	Leu	Cys	Leu	Gly	Trp	Leu	Trp	Asp	Met	Asp
			20					25					30		
Ile	Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ser	Ser	Tyr	Gln	Leu	Leu	Asn	Phe
		35					40					45			
Leu	Pro	Leu	Asp	Phe	Phe	Pro	Asp	Leu	Asn	Ala	Leu	Val	Asp	Thr	Ala
	50					55					60				
Ala	Ala	Leu	Tyr	Glu	Glu	Glu	Leu	Thr	Gly	Arg	Glu	His	Cys	Ser	Pro
65					70					75					80
His	His	Thr	Ala	Ile	Arg	Gln	Ala	Leu	Val	Cys	Trp	Glu	Glu	Leu	Thr
				85					90					95	
Arg	Leu	Ile	Thr	Trp	Met	Ser	Glu	Asn	Thr	Thr	Glu	Glu	Val	Arg	Arg
			100					105					110		
Ile	Ile	Val	Asp	His	Val	Asn	Asn	Thr	Trp	Gly	Leu	Lys	Val	Arg	Gln
		115					120					125			
Thr	Leu	Trp	Phe	His	Leu	Ser	Cys	Leu	Thr	Phe	Gly	Gln	His	Thr	Val

130		135		140
Gln 145	Glu Phe Leu Val	Ser 150	Phe Gly Val Trp	Ile 155 Arg Thr Pro Ala Pro 160
Tyr 165	Arg Pro Pro Asn 165	Ala Pro Ile Leu	Ser 170 Thr Leu Pro	Glu His Thr 175
Val 180	Ile Arg Arg Arg	Gly Gly Ser Arg 185	Ala Ala Arg Ser	Pro Arg Arg 190
Arg 195	Thr Pro Ser Pro	Arg Arg Arg	Ser Gln Ser	Pro Arg Arg Arg 205
Arg 210	Ser Gln Ser Pro	Ala Ser Asn Cys 215		

<210> 137  
 <211> 262  
 <212> PRT  
 <213> Snow Goose Hepatitis B Virus

<400> 137

Met 1	Asp Val Asn 5	Ala Ser Arg Ala	Leu 10 Ala Asn Val Tyr Asp Leu Pro 15
Asp 20	Asp Phe Phe Pro Lys Ile	Glu Asp 25 Leu Val Arg Asp Ala Lys Asp 30	
Ala 35	Leu Glu Pro Tyr Trp Lys Ser Asp Ser Ile Lys Lys His Val Leu 45		
Ile 50	Ala Thr His Phe Val Asp 55 Leu Ile Glu Asp Phe Trp Gln Thr Thr 60		
Gln 65	Gly Met His Glu Ile 70 Ala Glu Ala Ile Arg 75 Ala Val Ile Pro Pro 80		
Thr 85	Thr Ala Pro Val Pro Ser Gly Tyr Leu 90 Ile Gln His Asp Glu Ala 95		
Glu 100	Glu Ile Pro Leu Gly Asp Leu Phe 105 Lys Glu Gln Glu Glu Arg Ile 110		
Val 115	Ser Phe Gln Pro Asp Tyr Pro 120 Ile Thr Ala Arg Ile His Ala His 125		
Leu 130	Lys Ala Tyr Ala Lys Ile 135 Asn Glu Glu Ser Leu Asp Arg Ala Arg 140		
Arg 145	Leu Leu Trp Trp His 150 Tyr Asn Cys Leu Leu Trp Gly Glu Ala Thr 160		
Val 165	Thr Asn Tyr Ile Ser Arg Leu Arg Thr 170 Trp Leu Ser Thr Pro Glu 175		
Lys 180	Tyr Arg Gly Arg Asp Ala Pro Thr 185 Ile Glu Ala Ile Thr Arg Pro 190		
Ile 195	Gln Val Ala Gln Gly Gly Arg 200 Lys Thr Ser Thr Ala Thr Arg Lys 205		



Pro	Arg	Gly	Leu	Glu	Pro	Arg	Arg	Arg	Lys	Val	Lys	Thr	Thr	Val	Val
	210					215					220				
Tyr	Gly	Arg	Arg	Arg	Ser	Lys	Ser	Arg	Glu	Arg	Arg	Ala	Ser	Ser	Pro
225					230					235					240
Gln	Arg	Ala	Gly	Ser	Pro	Leu	Pro	Arg	Ser	Ser	Ser	Ser	His	His	Arg
				245					250					255	
Ser	Pro	Ser	Pro	Arg	Lys										
			260												

<210> 138  
 <211> 305  
 <212> PRT  
 <213> Duck hepatitis B virus

<400> 138

Met	Trp	Asp	Leu	Arg	Leu	His	Pro	Ser	Pro	Phe	Gly	Ala	Ala	Cys	Gln
1				5					10					15	
Gly	Ile	Phe	Thr	Ser	Ser	Leu	Leu	Leu	Phe	Leu	Val	Thr	Val	Pro	Leu
			20					25					30		
Val	Cys	Thr	Ile	Val	Tyr	Asp	Ser	Cys	Leu	Cys	Met	Asp	Ile	Asn	Ala
		35					40					45			
Ser	Arg	Ala	Leu	Ala	Asn	Val	Tyr	Asp	Leu	Pro	Asp	Asp	Phe	Phe	Pro
	50					55					60				
Lys	Ile	Asp	Asp	Leu	Val	Arg	Asp	Ala	Lys	Asp	Ala	Leu	Glu	Pro	Tyr
65					70					75					80
Trp	Arg	Asn	Asp	Ser	Ile	Lys	Lys	His	Val	Leu	Ile	Ala	Thr	His	Phe
				85					90					95	
Val	Asp	Leu	Ile	Glu	Asp	Phe	Trp	Gln	Thr	Thr	Gln	Gly	Met	His	Glu
			100					105					110		
Ile	Ala	Glu	Ala	Leu	Arg	Ala	Ile	Ile	Pro	Ala	Thr	Thr	Ala	Pro	Val
		115					120					125			
Pro	Gln	Gly	Phe	Leu	Val	Gln	His	Glu	Glu	Ala	Glu	Glu	Ile	Pro	Leu
	130					135					140				
Gly	Glu	Leu	Phe	Arg	Tyr	Gln	Glu	Glu	Arg	Leu	Thr	Asn	Phe	Gln	Pro
145					150					155					160
Asp	Tyr	Pro	Val	Thr	Ala	Arg	Ile	His	Ala	His	Leu	Lys	Ala	Tyr	Ala
				165					170					175	
Lys	Ile	Asn	Glu	Glu	Ser	Leu	Asp	Arg	Ala	Arg	Arg	Leu	Leu	Trp	Trp
			180					185					190		
His	Tyr	Asn	Cys	Leu	Leu	Trp	Gly	Glu	Pro	Asn	Val	Thr	Asn	Tyr	Ile
		195					200					205			
Ser	Arg	Leu	Arg	Thr	Trp	Leu	Ser	Thr	Pro	Glu	Lys	Tyr	Arg	Gly	Lys
	210					215					220				
Asp	Ala	Pro	Thr	Ile	Glu	Ala	Ile	Thr	Arg	Pro	Ile	Gln	Val	Ala	Gln

225		230		235		240
Gly Gly Arg Asn Lys Thr Gln Gly Val Arg Lys Ser Arg Gly Leu Glu						
		245		250		255
Pro Arg Arg Arg Arg Val Lys Thr Thr Ile Val Tyr Gly Arg Arg Arg						
		260		265		270
Ser Lys Ser Arg Glu Arg Arg Ala Pro Thr Pro Gln Arg Ala Gly Ser						
		275		280		285
Pro Leu Pro Arg Thr Ser Arg Asp His His Arg Ser Pro Ser Pro Arg						
		290		295		300
Glu						
305						
<210> 139						
<211> 212						
<212> PRT						
<213> Haemophilus influenzae						
<400> 139						
Met Lys Lys Thr Leu Leu Gly Ser Leu Ile Leu Leu Ala Phe Ala Gly						
1		5		10		15
Asn Val Gln Ala Ala Ala Asn Ala Asp Thr Ser Gly Thr Val Thr Phe						
		20		25		30
Phe Gly Lys Val Val Glu Asn Thr Cys Gln Val Asn Gln Asp Ser Glu						
		35		40		45
Tyr Glu Cys Asn Leu Asn Asp Val Gly Lys Asn His Leu Ser Gln Gln						
		50		55		60
Gly Tyr Thr Ala Met Gln Thr Pro Phe Thr Ile Thr Leu Glu Asn Cys						
65		70		75		80
Asn Val Thr Thr Thr Asn Asn Lys Pro Lys Ala Thr Lys Val Gly Val						
		85		90		95
Tyr Phe Tyr Ser Trp Glu Ile Ala Asp Lys Asp Asn Lys Tyr Thr Leu						
		100		105		110
Lys Asn Ile Lys Glu Asn Thr Gly Thr Asn Asp Ser Ala Asn Lys Val						
		115		120		125
Asn Ile Gln Leu Leu Glu Asp Asn Gly Thr Ala Glu Ile Lys Val Val						
		130		135		140
Gly Lys Thr Thr Thr Asp Phe Thr Ser Glu Asn His Asn Gly Ala Gly						
145		150		155		160
Ala Asp Pro Val Ala Thr Asn Lys His Ile Ser Ser Leu Thr Pro Leu						
		165		170		175
Asn Asn Gln Asn Ser Ile Asn Leu His Tyr Ile Ala Gln Tyr Tyr Ala						
		180		185		190
Thr Gly Val Ala Glu Ala Gly Lys Val Pro Ser Ser Val Asn Ser Gln						
		195		200		205

Ile Ala Tyr Glu  
210

<210> 140  
<211> 139  
<212> PRT  
<213> *Pseudomonas stutzeri*

<400> 140  
Met Lys Ala Gln Met Gln Lys Gly Phe Thr Leu Ile Glu Leu Met Ile  
1 5 10 15  
Val Val Ala Ile Ile Gly Ile Leu Ala Ala Ile Ala Leu Pro Ala Tyr  
20 25 30  
Gln Asp Tyr Thr Val Arg Ser Asn Ala Ala Ala Leu Ala Glu Ile  
35 40 45  
Thr Pro Gly Lys Ile Gly Phe Glu Gln Ala Ile Asn Glu Gly Lys Thr  
50 55 60  
Pro Ser Leu Thr Ser Thr Asp Glu Gly Tyr Ile Gly Ile Thr Asp Ser  
65 70 75 80  
Thr Ser Tyr Cys Asp Val Asp Leu Asp Thr Ala Ala Asp Gly His Ile  
85 90 95  
Glu Cys Thr Ala Lys Gly Gly Asn Ala Gly Lys Phe Asp Gly Lys Thr  
100 105 110  
Ile Thr Leu Asn Arg Thr Ala Asp Gly Glu Trp Ser Cys Ala Ser Thr  
115 120 125  
Leu Asp Ala Lys Tyr Lys Pro Gly Lys Cys Ser  
130 135

<210> 141  
<211> 59  
<212> PRT  
<213> *Caulobacter crescentus*

<400> 141  
Met Thr Lys Phe Val Thr Arg Phe Leu Lys Asp Glu Ser Gly Ala Thr  
1 5 10 15  
Ala Ile Glu Tyr Gly Leu Ile Val Ala Leu Ile Ala Val Val Ile Val  
20 25 30  
Thr Ala Val Thr Thr Leu Gly Thr Asn Leu Arg Thr Ala Phe Thr Lys  
35 40 45  
Ala Gly Ala Ala Val Ser Thr Ala Ala Gly Thr  
50 55

<210> 142  
<211> 173  
<212> PRT  
<213> *Escherichia coli*

<400> 142

Met	Ala	Val	Val	Ser	Phe	Gly	Val	Asn	Ala	Ala	Pro	Thr	Ile	Pro	Gln
1				5					10					15	
Gly	Gln	Gly	Lys	Val	Thr	Phe	Asn	Gly	Thr	Val	Val	Asp	Ala	Pro	Cys
			20					25					30		
Ser	Ile	Ser	Gln	Lys	Ser	Ala	Asp	Gln	Ser	Ile	Asp	Phe	Gly	Gln	Leu
		35					40					45			
Ser	Lys	Ser	Phe	Leu	Glu	Ala	Gly	Gly	Val	Ser	Lys	Pro	Met	Asp	Leu
	50					55					60				
Asp	Ile	Glu	Leu	Val	Asn	Cys	Asp	Ile	Thr	Ala	Phe	Lys	Gly	Gly	Asn
65					70					75					80
Gly	Ala	Gln	Lys	Gly	Thr	Val	Lys	Leu	Ala	Phe	Thr	Gly	Pro	Ile	Val
				85					90					95	
Asn	Gly	His	Ser	Asp	Glu	Leu	Asp	Thr	Asn	Gly	Gly	Thr	Gly	Thr	Ala
			100					105					110		
Ile	Val	Val	Gln	Gly	Ala	Gly	Lys	Asn	Val	Val	Phe	Asp	Gly	Ser	Glu
		115					120					125			
Gly	Asp	Ala	Asn	Thr	Leu	Lys	Asp	Gly	Glu	Asn	Val	Leu	His	Tyr	Thr
	130					135					140				
Ala	Val	Val	Lys	Lys	Ser	Ser	Ala	Val	Gly	Ala	Ala	Val	Thr	Glu	Gly
145					150					155					160
Ala	Phe	Ser	Ala	Val	Ala	Asn	Phe	Asn	Leu	Thr	Tyr	Gln			
				165					170						

<210> 143

<211> 173

<212> PRT

<213> Escherichia coli

<400> 143

Met	Ala	Val	Val	Ser	Phe	Gly	Val	Asn	Ala	Ala	Pro	Thr	Ile	Pro	Gln
1				5					10					15	
Gly	Gln	Gly	Lys	Val	Thr	Phe	Asn	Gly	Thr	Val	Val	Asp	Ala	Pro	Cys
			20					25					30		
Ser	Ile	Ser	Gln	Lys	Ser	Ala	Asp	Gln	Ser	Ile	Asp	Phe	Gly	Gln	Leu
		35					40					45			
Ser	Lys	Ser	Phe	Leu	Glu	Ala	Gly	Gly	Val	Ser	Lys	Pro	Met	Asp	Leu
	50					55					60				
Asp	Ile	Glu	Leu	Val	Asn	Cys	Asp	Ile	Thr	Ala	Phe	Lys	Gly	Gly	Asn
65					70					75					80
Gly	Ala	Gln	Lys	Gly	Thr	Val	Lys	Leu	Ala	Phe	Thr	Gly	Pro	Ile	Val
				85					90					95	
Asn	Gly	His	Ser	Asp	Glu	Leu	Asp	Thr	Asn	Gly	Gly	Thr	Gly	Thr	Ala
			100					105					110		

Ile Val Val Gln Gly Ala Gly Lys Asn Val Val Phe Asp Gly Ser Glu  
115 120 125  
Gly Asp Ala Asn Thr Leu Lys Asp Gly Glu Asn Val Leu His Tyr Thr  
130 135 140  
Ala Val Val Lys Lys Ser Ser Ala Val Gly Ala Ala Val Thr Glu Gly  
145 150 155 160  
Ala Phe Ser Ala Val Ala Asn Phe Asn Leu Thr Tyr Gln  
165 170

<210> 144  
<211> 172  
<212> PRT  
<213> Escherichia coli

<400> 144  
Met Ala Val Val Ser Phe Gly Val Asn Ala Ala Pro Thr Thr Pro Gln  
1 5 10 15  
Gly Gln Gly Arg Val Thr Phe Asn Gly Thr Val Val Asp Ala Pro Cys  
20 25 30  
Ser Ile Ser Gln Lys Ser Ala Asp Gln Ser Ile Asp Phe Gly Gln Leu  
35 40 45  
Ser Lys Ser Phe Leu Ala Asn Asp Gly Gln Ser Lys Pro Met Asn Leu  
50 55 60  
Asp Ile Glu Leu Val Asn Cys Asp Ile Thr Ala Phe Lys Asn Gly Asn  
65 70 75 80  
Ala Lys Thr Gly Ser Val Lys Leu Ala Phe Thr Gly Pro Thr Val Ser  
85 90 95  
Gly His Pro Ser Glu Leu Ala Thr Asn Gly Gly Pro Gly Thr Ala Ile  
100 105 110  
Met Ile Gln Ala Ala Gly Lys Asn Val Pro Phe Asp Gly Thr Glu Gly  
115 120 125  
Asp Pro Asn Leu Leu Lys Asp Gly Asp Asn Val Leu His Tyr Thr Thr  
130 135 140  
Val Gly Lys Lys Ser Ser Asp Gly Asn Ala Gln Ile Thr Glu Gly Ala  
145 150 155 160  
Phe Ser Gly Val Ala Thr Phe Asn Leu Ser Tyr Gln  
165 170

<210> 145  
<211> 853  
<212> DNA  
<213> Escherichia coli

<220>  
<221> CDS  
<222> (281)..(829)

<400> 145  
acgtttctgt ggctcgacgc atcttctctca ttcttctctc caaaaaccac ctcatgcaat 60

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ataaacatct ataaataaag ataacaaata gaatattaag ccaacaaata aactgaaaaa 120
gtttgtccgc gatgctttac ctctatgagt caaaatggcc ccaatgtttc atcttttggg 180
ggaaactgtg cagtgttggc agtcaaactc gttgacaaac aaagtgtaca gaacgactgc 240
ccatgtcgat ttagaaatag ttttttgaaa ggaaagcagc atg aaa att aaa act 295
                                   Met Lys Ile Lys Thr
                                   1      5

ctg gca atc gtt gtt ctg tcg gct ctg tcc ctc agt tct acg acg gct 343
Leu Ala Ile Val Val Leu Ser Ala Leu Ser Leu Ser Ser Thr Thr Ala
                                   10      15      20

ctg gcc gct gcc acg acg gtt aat ggt ggg acc gtt cac ttt aaa ggg 391
Leu Ala Ala Ala Thr Thr Val Asn Gly Gly Thr Val His Phe Lys Gly
                                   25      30      35

gaa gtt gtt aac gcc gct tgc gca gtt gat gca ggc tct gtt gat caa 439
Glu Val Val Asn Ala Ala Cys Ala Val Asp Ala Gly Ser Val Asp Gln
                                   40      45      50

acc gtt cag tta gga cag gtt cgt acc gca tcg ctg gca cag gaa gga 487
Thr Val Gln Leu Gly Gln Val Arg Thr Ala Ser Leu Ala Gln Glu Gly
                                   55      60      65

gca acc agt tct gct gtc ggt ttt aac att cag ctg aat gat tgc gat 535
Ala Thr Ser Ser Ala Val Gly Phe Asn Ile Gln Leu Asn Asp Cys Asp
                                   70      75      80      85

acc aat gtt gca tct aaa gcc gct gtt gcc ttt tta ggt acg gcg att 583
Thr Asn Val Ala Ser Lys Ala Ala Val Ala Phe Leu Gly Thr Ala Ile
                                   90      95      100

gat gcg ggt cat acc aac gtt ctg gct ctg cag agt tca gct gcg ggt 631
Asp Ala Gly His Thr Asn Val Leu Ala Leu Gln Ser Ser Ala Ala Gly
                                   105      110      115

agc gca aca aac gtt ggt gtg cag atc ctg gac aga acg ggt gct gcg 679
Ser Ala Thr Asn Val Gly Val Gln Ile Leu Asp Arg Thr Gly Ala Ala
                                   120      125      130

ctg acg ctg gat ggt gcg aca ttt agt tca gaa aca acc ctg aat aac 727
Leu Thr Leu Asp Gly Ala Thr Phe Ser Ser Glu Thr Thr Leu Asn Asn
                                   135      140      145

gga acc aat acc att ccg ttc cag gcg cgt tat ttt gca acc ggg gcc 775
Gly Thr Asn Thr Ile Pro Phe Gln Ala Arg Tyr Phe Ala Thr Gly Ala
                                   150      155      160      165

gca acc ccg ggt gct gct aat gcg gat gcg acc ttc aag gtt cag tat 823
Ala Thr Pro Gly Ala Ala Asn Ala Asp Ala Thr Phe Lys Val Gln Tyr
                                   170      175      180

caa taa cctacctagg ttcagggacg ttca 853
Gln

```

<210> 146  
 <211> 182  
 <212> PRT  
 <213> Escherichia coli

```

<400> 146
Met Lys Ile Lys Thr Leu Ala Ile Val Val Leu Ser Ala Leu Ser Leu
 1          5          10          15
Ser Ser Thr Thr Ala Leu Ala Ala Thr Thr Val Asn Gly Gly Thr
 20          25          30
Val His Phe Lys Gly Glu Val Val Asn Ala Ala Cys Ala Val Asp Ala
 35          40          45
Gly Ser Val Asp Gln Thr Val Gln Leu Gly Gln Val Arg Thr Ala Ser
 50          55          60
Leu Ala Gln Glu Gly Ala Thr Ser Ser Ala Val Gly Phe Asn Ile Gln
 65          70          75          80
Leu Asn Asp Cys Asp Thr Asn Val Ala Ser Lys Ala Ala Val Ala Phe
 85          90          95
Leu Gly Thr Ala Ile Asp Ala Gly His Thr Asn Val Leu Ala Leu Gln
100          105          110
Ser Ser Ala Ala Gly Ser Ala Thr Asn Val Gly Val Gln Ile Leu Asp
115          120          125
Arg Thr Gly Ala Ala Leu Thr Leu Asp Gly Ala Thr Phe Ser Ser Glu
130          135          140
Thr Thr Leu Asn Asn Gly Thr Asn Thr Ile Pro Phe Gln Ala Arg Tyr
145          150          155          160
Phe Ala Thr Gly Ala Ala Thr Pro Gly Ala Ala Asn Ala Asp Ala Thr
165          170          175
Phe Lys Val Gln Tyr Gln
180

```

```

<210> 147
<211> 11
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> FLAG peptide

```

```

<400> 147
Cys Gly Gly Asp Tyr Lys Asp Asp Asp Asp Lys
 1          5          10

```

```

<210> 148
<211> 31
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> primer

```

```

<400> 148
ccggaattca tggacattga cccttataaa g

```

31

```

<210> 149
<211> 37
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> primer

```

```

<400> 149

```

gtgcagtatg gtgaggtgag gaatgctcag gagactc 37

<210> 150  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 150  
gsgtctcctg agcattcctc acctcaccat actgcac 37

<210> 151  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 151  
cttccaaaag tgagggaaga aatgtgaaac cac 33

<210> 152  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 152  
cgcgtcccaa gcttctaaac aacagtagtc tccggaagcg ttgatag 47

<210> 153  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 153  
gtggtttcac atttcttccc tcacttttgg aag 33

<210> 154  
<211> 281  
<212> PRT  
<213> Saccharomyces cerevisiae

<400> 154  
Met Ser Glu Tyr Gln Pro Ser Leu Phe Ala Leu Asn Pro Met Gly Phe  
1 5 10 15



Ser	Pro	Leu	Asp 20	Gly	Ser	Lys	Ser	Thr 25	Asn	Glu	Asn	Val	Ser 30	Ala	Ser
Thr	Ser	Thr 35	Ala	Lys	Pro	Met	Val 40	Gly	Gln	Leu	Ile	Phe 45	Asp	Lys	Phe
Ile	Lys 50	Thr	Glu	Glu	Asp	Pro 55	Ile	Ile	Lys	Gln	Asp 60	Thr	Pro	Ser	Asn
Leu 65	Asp	Phe	Asp	Phe	Ala 70	Leu	Pro	Gln	Thr	Ala 75	Thr	Ala	Pro	Asp	Ala 80
Lys	Thr	Val	Leu	Pro 85	Ile	Pro	Glu	Leu	Asp 90	Asp	Ala	Val	Val	Glu	Ser 95
Phe	Phe	Ser	Ser 100	Ser	Thr	Asp	Ser	Thr 105	Pro	Met	Phe	Glu	Tyr 110	Glu	Asn
Leu	Glu	Asp 115	Asn	Ser	Lys	Glu	Trp 120	Thr	Ser	Leu	Phe	Asp 125	Asn	Asp	Ile
Pro	Val 130	Thr	Thr	Asp	Asp	Val 135	Ser	Leu	Ala	Asp	Lys 140	Ala	Ile	Glu	Ser
Thr 145	Glu	Glu	Val	Ser	Leu 150	Val	Pro	Ser	Asn	Leu 155	Glu	Val	Ser	Thr	Thr 160
Ser	Phe	Leu	Pro	Thr 165	Pro	Val	Leu	Glu	Asp 170	Ala	Lys	Leu	Thr	Gln	Thr 175
Arg	Lys	Val	Lys 180	Lys	Pro	Asn	Ser 185	Val	Val	Lys	Lys	Ser	His 190	His	Val
Gly	Lys	Asp 195	Asp	Glu	Ser	Arg	Leu 200	Asp	His	Leu	Gly	Val 205	Val	Ala	Tyr
Asn 210	Arg	Lys	Gln	Arg	Ser	Ile 215	Pro	Leu	Ser	Pro	Ile 220	Val	Pro	Glu	Ser
Ser 225	Asp	Pro	Ala	Ala	Leu 230	Lys	Arg	Ala	Arg	Asn 235	Thr	Glu	Ala	Ala	Arg 240
Arg	Ser	Arg	Ala	Arg 245	Lys	Leu	Gln	Arg	Met 250	Lys	Gln	Leu	Glu	Asp 255	Lys
Val	Glu	Glu	Leu 260	Leu	Ser	Lys	Asn 265	Tyr	His	Leu	Glu	Asn 270	Glu	Val	Ala
Arg	Leu	Lys 275	Lys	Leu	Val	Gly	Glu 280	Arg							

<210> 155

<211> 181

<212> PRT

<213> Escherichia coli

<400> 155

Met	Lys	Ile	Lys	Thr	Leu	Ala	Ile	Val	Val	Leu	Ser	Ala	Leu	Ser	Leu
1				5					10					15	

Ser	Ser	Thr	Ala	Ala	Leu	Ala	Ala	Ala	Thr	Thr	Val	Asn	Gly	Gly	Thr
			20					25					30		

Val	His	Phe	Lys	Gly	Glu	Val	Val	Asn	Ala	Ala	Cys	Ala	Val	Asp	Ala		
		35					40					45					
Gly	Ser	Val	Asp	Gln	Thr	Val	Gln	Leu	Gly	Gln	Val	Arg	Thr	Ala	Ser		
	50					55					60						
Leu	Ala	Gln	Glu	Gly	Ala	Thr	Ser	Ser	Ala	Val	Gly	Phe	Asn	Ile	Gln		
65					70					75					80		
Leu	Asn	Asp	Cys	Asp	Thr	Asn	Val	Ala	Ser	Lys	Ala	Ala	Val	Ala	Phe		
				85					90					95			
Leu	Gly	Thr	Ala	Ile	Asp	Ala	Gly	His	Thr	Asn	Val	Leu	Ala	Leu	Gln		
			100					105					110				
Ser	Ser	Ala	Ala	Gly	Ser	Ala	Thr	Asn	Val	Gly	Val	Gln	Ile	Leu	Asp		
		115					120					125					
Arg	Thr	Gly	Ala	Ala	Leu	Thr	Leu	Asp	Gly	Ala	Thr	Phe	Ser	Ser	Glu		
		130				135					140						
Thr	Thr	Leu	Asn	Asn	Gly	Thr	Asn	Thr	Ile	Pro	Phe	Gln	Ala	Arg	Tyr		
145					150					155					160		
Phe	Ala	Gly	Ala	Ala	Thr	Pro	Gly	Ala	Ala	Asn	Ala	Asp	Ala	Thr	Phe		
				165					170					175			
Lys	Val	Gln	Tyr	Gln													
			180														

<210> 156  
 <211> 447  
 <212> DNA  
 <213> Hepatitis B

<220>  
 <221> CDS  
 <222> (1)..(447)

<400> 156																
atg	gac	att	gac	cct	tat	aaa	gaa	ttt	gga	gct	act	gtg	gag	tta	ctc	48
Met	Asp	Ile	Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	
1				5				10					15			
tcg	ttt	ttg	cct	tct	gac	ttc	ttt	cct	tcc	gta	cga	gat	ctt	cta	gat	96
Ser	Phe	Leu	Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	
			20					25					30			
acc	gcc	gca	gct	ctg	tat	cgg	gat	gcc	tta	gag	tct	cct	gag	cat	tgt	144
Thr	Ala	Ala	Ala	Leu	Tyr	Arg	Asp	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	
		35					40					45				
tca	cct	cac	cat	act	gca	ctc	agg	caa	gca	att	ctt	tgc	tgg	gga	gac	192
Ser	Pro	His	His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Asp	
		50				55					60					
tta	atg	act	cta	gct	acc	tgg	gtg	ggt	act	aat	tta	gaa	gat	cca	gca	240
Leu	Met	Thr	Leu	Ala	Thr	Trp	Val	Gly	Thr	Asn	Leu	Glu	Asp	Pro	Ala	
65					70					75					80	
tct	agg	gac	cta	gta	gtc	agt	tat	gtc	aac	act	aat	gtg	ggc	cta	aag	288

Ser	Arg	Asp	Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Val	Gly	Leu	Lys	
				85					90					95		
ttc	aga	caa	tta	ttg	tgg	ttt	cac	att	tct	tgt	ctc	act	ttt	gga	aga	336
Phe	Arg	Gln	Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	
			100					105					110			
gaa	acg	ggt	cta	gag	tat	ttg	gtc	tct	ttt	gga	gtg	tgg	att	cgc	act	384
Glu	Thr	Val	Leu	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	
		115					120					125				
cct	cca	gcc	tat	aga	cca	cca	aat	gcc	cct	atc	cta	tca	acg	ctt	ccg	432
Pro	Pro	Ala	Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	
	130					135					140					
gag	act	act	ggt	ggt												447
Glu	Thr	Thr	Val	Val												
145																

<210> 157  
 <211> 149  
 <212> PRT  
 <213> Hepatitis B

<400> 157																
Met	Asp	Ile	Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	
1				5					10					15		
Ser	Phe	Leu	Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	
			20					25					30			
Thr	Ala	Ala	Ala	Leu	Tyr	Arg	Asp	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	
		35					40					45				
Ser	Pro	His	His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Asp	
	50					55					60					
Leu	Met	Thr	Leu	Ala	Thr	Trp	Val	Gly	Thr	Asn	Leu	Glu	Asp	Pro	Ala	
65					70					75					80	
Ser	Arg	Asp	Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Val	Gly	Leu	Lys	
				85					90					95		
Phe	Arg	Gln	Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Arg	
			100					105					110			
Glu	Thr	Val	Leu	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	
		115					120					125				
Pro	Pro	Ala	Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	
	130					135					140					
Glu	Thr	Thr	Val	Val												
145																

<210> 158  
 <211> 152  
 <212> PRT  
 <213> Hepatitis B

<400> 158

Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ala Ala Leu Tyr Arg Asp Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Thr Asn Leu Glu Asp Gly Gly  
65 70 75 80

Lys Gly Gly Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Val  
85 90 95

Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr  
100 105 110

Phe Gly Arg Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp  
115 120 125

Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser  
130 135 140

Thr Leu Pro Glu Thr Thr Val Val  
145 150

<210> 159

<211> 132

<212> PRT

<213> Bacteriophage Q Beta

<400> 159

Ala Lys Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Lys Asp Gly Lys  
1 5 10 15

Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val  
20 25 30

Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val  
35 40 45

Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val  
50 55 60

Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys  
65 70 75 80.

Asp Pro Ser Val Thr Arg Gln Ala Tyr Ala Asp Val Thr Phe Ser Phe  
85 90 95

Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu  
100 105 110

Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu  
115 120 125

Asn Pro Ala Tyr

130

<210> 160  
 <211> 129  
 <212> PRT  
 <213> Bacteriophage R 17

<400> 160

Ala	Ser	Asn	Phe	Thr	Gln	Phe	Val	Leu	Val	Asn	Asp	Gly	Gly	Thr	Gly		
1				5					10					15			
Asn	Val	Thr	Val	Ala	Pro	Ser	Asn	Phe	Ala	Asn	Gly	Val	Ala	Glu	Trp		
			20					25					30				
Ile	Ser	Ser	Asn	Ser	Arg	Ser	Gln	Ala	Tyr	Lys	Val	Thr	Cys	Ser	Val		
		35					40					45					
Arg	Gln	Ser	Ser	Ala	Gln	Asn	Arg	Lys	Tyr	Thr	Ile	Lys	Val	Glu	Val		
	50					55					60						
Pro	Lys	Val	Ala	Thr	Gln	Thr	Val	Gly	Gly	Val	Glu	Leu	Pro	Val	Ala		
65					70					75					80		
Ala	Trp	Arg	Ser	Tyr	Leu	Asn	Met	Glu	Leu	Thr	Ile	Pro	Ile	Phe	Ala		
				85					90					95			
Thr	Asn	Ser	Asp	Cys	Glu	Leu	Ile	Val	Lys	Ala	Met	Gln	Gly	Leu	Leu		
			100					105					110				
Lys	Asp	Gly	Asn	Pro	Ile	Pro	Ser	Ala	Ile	Ala	Ala	Asn	Ser	Gly	Ile		
		115					120					125					

Tyr

<210> 161  
 <211> 130  
 <212> PRT  
 <213> Bacteriophage fr

<400> 161

Met	Ala	Ser	Asn	Phe	Glu	Glu	Phe	Val	Leu	Val	Asp	Asn	Gly	Gly	Thr		
1				5					10					15			
Gly	Asp	Val	Lys	Val	Ala	Pro	Ser	Asn	Phe	Ala	Asn	Gly	Val	Ala	Glu		
			20					25					30				
Trp	Ile	Ser	Ser	Asn	Ser	Arg	Ser	Gln	Ala	Tyr	Lys	Val	Thr	Cys	Ser		
		35					40					45					
Val	Arg	Gln	Ser	Ser	Ala	Asn	Asn	Arg	Lys	Tyr	Thr	Val	Lys	Val	Glu		
	50					55					60						
Val	Pro	Lys	Val	Ala	Thr	Gln	Val	Gln	Gly	Gly	Val	Glu	Leu	Pro	Val		
65					70					75					80		
Ala	Ala	Trp	Arg	Ser	Tyr	Met	Asn	Met	Glu	Leu	Thr	Ile	Pro	Val	Phe		

85 90 95  
Ala Thr Asn Asp Asp Cys Ala Leu Ile Val Lys Ala Leu Gln Gly Thr  
100 105 110  
Phe Lys Thr Gly Asn Pro Ile Ala Thr Ala Ile Ala Ala Asn Ser Gly  
115 120 125  
Ile Tyr  
130

<210> 162  
<211> 130  
<212> PRT  
<213> Bacteriophage GA

<400> 162

Met Ala Thr Leu Arg Ser Phe Val Leu Val Asp Asn Gly Gly Thr Gly  
1 5 10 15  
Asn Val Thr Val Val Pro Val Ser Asn Ala Asn Gly Val Ala Glu Trp  
20 25 30  
Leu Ser Asn Asn Ser Arg Ser Gln Ala Tyr Arg Val Thr Ala Ser Tyr  
35 40 45  
Arg Ala Ser Gly Ala Asp Lys Arg Lys Tyr Ala Ile Lys Leu Glu Val  
50 55 60  
Pro Lys Ile Val Thr Gln Val Val Asn Gly Val Glu Leu Pro Gly Ser  
65 70 75 80  
Ala Trp Lys Ala Tyr Ala Ser Ile Asp Leu Thr Ile Pro Ile Phe Ala  
85 90 95  
Ala Thr Asp Asp Val Thr Val Ile Ser Lys Ser Leu Ala Gly Leu Phe  
100 105 110  
Lys Val Gly Asn Pro Ile Ala Glu Ala Ile Ser Ser Gln Ser Gly Phe  
115 120 125  
Tyr Ala  
130

<210> 163  
<211> 132  
<212> PRT  
<213> Bacteriophage SP

<400> 163

Met Ala Lys Leu Asn Gln Val Thr Leu Ser Lys Ile Gly Lys Asn Gly  
1 5 10 15  
Asp Gln Thr Leu Thr Leu Thr Pro Arg Gly Val Asn Pro Thr Asn Gly  
20 25 30  
Val Ala Ser Leu Ser Glu Ala Gly Ala Val Pro Ala Leu Glu Lys Arg  
35 40 45

Val Thr Val Ser Val Ala Gln Pro Ser Arg Asn Arg Lys Asn Phe Lys  
50 55 60

Val Gln Ile Lys Leu Gln Asn Pro Thr Ala Cys Thr Arg Asp Ala Cys  
65 70 75 80

Asp Pro Ser Val Thr Arg Ser Ala Phe Ala Asp Val Thr Leu Ser Phe  
85 90 95

Thr Ser Tyr Ser Thr Asp Glu Glu Arg Ala Leu Ile Arg Thr Glu Leu  
100 105 110

Ala Ala Leu Leu Ala Asp Pro Leu Ile Val Asp Ala Ile Asp Asn Leu  
115 120 125

Asn Pro Ala Tyr  
130

<210> 164  
<211> 130  
<212> PRT  
<213> Bacteriophage MS2

<400> 164

Met Ala Ser Asn Phe Thr Gln Phe Val Leu Val Asp Asn Gly Gly Thr  
1 5 10 15

Gly Asp Val Thr Val Ala Pro Ser Asn Phe Ala Asn Gly Val Ala Glu  
20 25 30

Trp Ile Ser Ser Asn Ser Arg Ser Gln Ala Tyr Lys Val Thr Cys Ser  
35 40 45

Val Arg Gln Ser Ser Ala Gln Asn Arg Lys Tyr Thr Ile Lys Val Glu  
50 55 60

Val Pro Lys Val Ala Thr Gln Thr Val Gly Gly Val Glu Leu Pro Val  
65 70 75 80

Ala Ala Trp Arg Ser Tyr Leu Asn Met Glu Leu Thr Ile Pro Ile Phe  
85 90 95

Ala Thr Asn Ser Asp Cys Glu Leu Ile Val Lys Ala Met Gln Gly Leu  
100 105 110

Leu Lys Asp Gly Asn Pro Ile Pro Ser Ala Ile Ala Ala Asn Ser Gly  
115 120 125

Ile Tyr  
130

<210> 165  
<211> 133  
<212> PRT  
<213> Bacteriophage M11

<400> 165

Met Ala Lys Leu Gln Ala Ile Thr Leu Ser Gly Ile Gly Lys Lys Gly

[illegible]

```
<210> 166
<211> 133
<212> PRT
<213> Bacteriophage MX1
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<400>	166															
Met 1	Ala	Lys	Leu	Gln 5	Ala	Ile	Thr	Leu	Ser 10	Gly	Ile	Gly	Lys	Asn 15	Gly	
Asp	Val	Thr	Leu 20	Asn	Leu	Asn	Pro	Arg 25	Gly	Val	Asn	Pro	Thr 30	Asn	Gly	
Val	Ala	Ala 35	Leu	Ser	Glu	Ala	Gly 40	Ala	Val	Pro	Ala	Leu 45	Glu	Lys	Arg	
Val	Thr 50	Ile	Ser	Val	Ser	Gln 55	Pro	Ser	Arg	Asn	Arg 60	Lys	Asn	Tyr	Lys	
Val 65	Gln	Val	Lys	Ile	Gln 70	Asn	Pro	Thr	Ser	Cys 75	Thr	Ala	Ser	Gly	Thr 80	
Cys	Asp	Pro	Ser	Val 85	Thr	Arg	Ser	Ala	Tyr 90	Ala	Asp	Val	Thr	Phe 95	Ser	
Phe	Thr	Gln	Tyr 100	Ser	Thr	Asp	Glu	Glu 105	Arg	Ala	Leu	Val	Arg 110	Thr	Glu	
Leu	Lys	Ala 115	Leu	Leu	Ala	Asp	Pro 120	Met	Leu	Ile	Asp	Ala 125	Ile	Asp	Asn	
Leu	Asn 130	Pro	Ala	Tyr				.								



<210> 167  
 <211> 330  
 <212> PRT  
 <213> Bacteriophage NL95

<400> 167  
 Met Ala Lys Leu Asn Lys Val Thr Leu Thr Gly Ile Gly Lys Ala Gly  
 1 5 10 15  
 Asn Gln Thr Leu Thr Leu Thr Pro Arg Gly Val Asn Pro Thr Asn Gly  
 20 25 30  
 Val Ala Ser Leu Ser Glu Ala Gly Ala Val Pro Ala Leu Glu Lys Arg  
 35 40 45  
 Val Thr Val Ser Val Ala Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys  
 50 55 60  
 Val Gln Ile Lys Leu Gln Asn Pro Thr Ala Cys Thr Lys Asp Ala Cys  
 65 70 75 80  
 Asp Pro Ser Val Thr Arg Ser Gly Ser Arg Asp Val Thr Leu Ser Phe  
 85 90 95  
 Thr Ser Tyr Ser Thr Glu Arg Glu Arg Ala Leu Ile Arg Thr Glu Leu  
 100 105 110  
 Ala Ala Leu Leu Lys Asp Asp Leu Ile Val Asp Ala Ile Asp Asn Leu  
 115 120 125  
 Asn Pro Ala Tyr Trp Ala Ala Leu Leu Ala Ala Ser Pro Gly Gly Gly  
 130 135 140  
 Asn Asn Pro Tyr Pro Gly Val Pro Asp Ser Pro Asn Val Lys Pro Pro  
 145 150 155 160  
 Gly Gly Thr Gly Thr Tyr Arg Cys Pro Phe Ala Cys Tyr Arg Arg Gly  
 165 170 175  
 Glu Leu Ile Thr Glu Ala Lys Asp Gly Ala Cys Ala Leu Tyr Ala Cys  
 180 185 190  
 Gly Ser Glu Ala Leu Val Glu Phe Glu Tyr Ala Leu Glu Asp Phe Leu  
 195 200 205  
 Gly Asn Glu Phe Trp Arg Asn Trp Asp Gly Arg Leu Ser Lys Tyr Asp  
 210 215 220  
 Ile Glu Thr His Arg Arg Cys Arg Gly Asn Gly Tyr Val Asp Leu Asp  
 225 230 235 240  
 Ala Ser Val Met Gln Ser Asp Glu Tyr Val Leu Ser Gly Ala Tyr Asp  
 245 250 255  
 Val Val Lys Met Gln Pro Pro Gly Thr Phe Asp Ser Pro Arg Tyr Tyr  
 260 265 270  
 Leu His Leu Met Asp Gly Ile Tyr Val Asp Leu Ala Glu Val Thr Ala  
 275 280 285  
 Tyr Arg Ser Tyr Gly Met Val Ile Gly Phe Trp Thr Asp Ser Lys Ser  
 290 295 300

Pro Gln Leu Pro Thr Asp Phe Thr Arg Phe Asn Arg His Asn Cys Pro  
305 310 315 320

Val Gln Thr Val Ile Val Ile Pro Ser Leu  
325 330

<210> 168  
<211> 134  
<212> PRT  
<213> Apis mellifera

<400> 168  
Ile Ile Tyr Pro Gly Thr Leu Trp Cys Gly His Gly Asn Lys Ser Ser  
1 5 10 15  
Gly Pro Asn Glu Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg  
20 25 30  
Thr His Asp Met Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His  
35 40 45  
Gly Leu Thr Asn Thr Ala Ser His Thr Arg Leu Ser Cys Asp Cys Asp  
50 55 60  
Asp Lys Phe Tyr Asp Cys Leu Lys Asn Ser Ala Asp Thr Ile Ser Ser  
65 70 75 80  
Tyr Phe Val Gly Lys Met Tyr Phe Asn Leu Ile Asp Thr Lys Cys Tyr  
85 90 95  
Lys Leu Glu His Pro Val Thr Gly Cys Gly Glu Arg Thr Glu Gly Arg  
100 105 110  
Cys Leu His Tyr Thr Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp  
115 120 125  
Phe Asp Leu Arg Lys Tyr  
130

<210> 169  
<211> 129  
<212> PRT  
<213> Apis mellifera

<400> 169  
Ile Ile Tyr Pro Gly Thr Leu Trp Cys Gly His Gly Asn Lys Ser Ser  
1 5 10 15  
Gly Pro Asn Glu Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg  
20 25 30  
Thr His Asp Met Cys Pro Asn Val Met Ser Ala Gly Glu Ser Lys His  
35 40 45  
Gly Leu Thr Asp Thr Ala Ser Arg Leu Ser Cys Asn Asp Asn Asp Leu  
50 55 60  
Phe Tyr Lys Asp Ser Ala Asp Thr Ile Ser Ser Tyr Phe Val Gly Lys  
65 70 75 80

Met Tyr Phe Asn Leu Ile Asn Thr Lys Cys Tyr Lys Leu Glu His Pro  
85 90 95

Val Thr Gly Cys Gly Glu Arg Thr Glu Gly Arg Cys Leu His Tyr Thr  
100 105 110

Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp Phe Asp Leu Arg Lys  
115 120 125

Tyr

<210> 170  
<211> 134  
<212> PRT  
<213> Apis dorsata

<400> 170  
Ile Ile Tyr Pro Gly Thr Leu Trp Cys Gly His Gly Asn Val Ser Ser  
1 5 10 15

Ser Pro Asp Glu Leu Gly Arg Phe Lys His Thr Asp Ser Cys Cys Arg  
20 25 30

Ser His Asp Met Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His  
35 40 45

Gly Leu Thr Asn Thr Ala Ser His Thr Arg Leu Ser Cys Asp Cys Asp  
50 55 60

Asp Lys Phe Tyr Asp Cys Leu Lys Asn Ser Ser Asp Thr Ile Ser Ser  
65 70 75 80

Tyr Phe Val Gly Glu Met Tyr Phe Asn Ile Leu Asp Thr Lys Cys Tyr  
85 90 95

Lys Leu Glu His Pro Val Thr Gly Cys Gly Lys Arg Thr Glu Gly Arg  
100 105 110

Cys Leu Asn Tyr Thr Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp  
115 120 125

Phe Asp Leu Arg Lys Tyr  
130

<210> 171  
<211> 134  
<212> PRT  
<213> Apis cerana

<400> 171  
Ile Ile Tyr Pro Gly Thr Leu Trp Cys Gly His Gly Asn Val Ser Ser  
1 5 10 15

Gly Pro Asn Glu Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg  
20 25 30

Thr His Asp Met Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His  
35 40 45

Gly Leu Thr Asn Thr Ala Ser His Thr Arg Leu Ser Cys Asp Cys Asp

50		55		60
Asp Thr Phe Tyr Asp Cys Leu Lys Asn Ser Gly Glu Lys Ile Ser Ser				
65		70		75
Tyr Phe Val Gly Lys Met Tyr Phe Asn Leu Ile Asp Thr Lys Cys Tyr				
		85		90
Lys Leu Glu His Pro Val Thr Gly Cys Gly Glu Arg Thr Glu Gly Arg				
		100		105
Cys Leu Arg Tyr Thr Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp				
		115		120
Phe Asp Leu Arg Lys Tyr				
130				

<210> 172  
 <211> 136  
 <212> PRT  
 <213> Bombus pennsylvanicus

<400> 172
Ile Ile Tyr Pro Gly Thr Leu Trp Cys Gly Asn Gly Asn Ile Ala Asn
1 5 10 15
Gly Thr Asn Glu Leu Gly Leu Trp Lys Glu Thr Asp Ala Cys Cys Arg
20 25 30
Thr His Asp Met Cys Pro Asp Ile Ile Glu Ala His Gly Ser Lys His
35 40 45
Gly Leu Thr Asn Pro Ala Asp Tyr Thr Arg Leu Asn Cys Glu Cys Asp
50 55 60
Glu Glu Phe Arg His Cys Leu His Asn Ser Gly Asp Ala Val Ser Ala
65 70 75 80
Ala Phe Val Gly Arg Thr Tyr Phe Thr Ile Leu Gly Thr Gln Cys Phe
85 90 95
Arg Leu Asp Tyr Pro Ile Val Lys Cys Lys Val Lys Ser Thr Ile Leu
100 105 110
Arg Glu Cys Lys Glu Tyr Glu Phe Asp Thr Asn Ala Pro Gln Lys Tyr
115 120 125
Gln Trp Phe Asp Val Leu Ser Tyr
130 135

<210> 173  
 <211> 142  
 <212> PRT  
 <213> Heloderma suspectum

<400> 173
Gly Ala Phe Ile Met Pro Gly Thr Leu Trp Cys Gly Ala Gly Asn Ala
1 5 10 15

Ala	Ser	Asp	Tyr	Ser	Gln	Leu	Gly	Thr	Glu	Lys	Asp	Thr	Asp	Met	Cys	
			20					25					30			
Cys	Arg	Asp	His	Asp	His	Cys	Ser	Asp	Thr	Met	Ala	Ala	Leu	Glu	Tyr	
		35					40					45				
Lys	His	Gly	Met	Arg	Asn	Tyr	Arg	Pro	His	Thr	Val	Ser	His	Cys	Asp	
	50					55					60					
Cys	Asp	Asn	Gln	Phe	Arg	Ser	Cys	Leu	Met	Asn	Val	Lys	Asp	Arg	Thr	
65					70					75					80	
Ala	Asp	Leu	Val	Gly	Met	Thr	Tyr	Phe	Thr	Val	Leu	Lys	Ile	Ser	Cys	
				85					90					95		
Phe	Glu	Leu	Glu	Glu	Gly	Glu	Gly	Cys	Val	Asp	Asn	Asn	Phe	Ser	Gln	
			100					105					110			
Gln	Cys	Thr	Lys	Ser	Glu	Ile	Met	Pro	Val	Ala	Lys	Leu	Val	Ser	Ala	
		115					120					125				
Ala	Pro	Tyr	Gln	Ala	Gln	Ala	Glu	Thr	Gln	Ser	Gly	Glu	Gly			
	130					135					140					

<210> 174  
<211> 143  
<212> PRT  
<213> Heloderma suspectum

<400>	174															
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Ala	Ser	Asp	Tyr	Ser	Gln	Leu	Gly	Thr	Glu	Lys	Asp	Thr	Asp	Met	Cys	
			20					25					30			
Cys	Arg	Asp	His	Asp	His	Cys	Glu	Asn	Trp	Ile	Ser	Ala	Leu	Glu	Tyr	
		35					40					45				
Lys	His	Gly	Met	Arg	Asn	Tyr	Tyr	Pro	Ser	Thr	Ile	Ser	His	Cys	Asp	
	50					55					60					
Cys	Asp	Asn	Gln	Phe	Arg	Ser	Cys	Leu	Met	Lys	Leu	Lys	Asp	Gly	Thr	
65					70					75					80	
Ala	Asp	Tyr	Val	Gly	Gln	Thr	Tyr	Phe	Asn	Val	Leu	Lys	Ile	Pro	Cys	
				85					90					95		
Phe	Glu	Leu	Glu	Glu	Gly	Glu	Gly	Cys	Val	Asp	Trp	Asn	Phe	Trp	Leu	
			100					105					110			
Glu	Cys	Thr	Glu	Ser	Lys	Ile	Met	Pro	Val	Ala	Lys	Leu	Val	Ser	Ala	
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Ala	Pro	Tyr	Gln	Ala	Gln	Ala	Glu	Thr	Gln	Ser	Gly	Glu	Gly	Arg		
	130					135					140					

<210> 175  
<211> 142  
<212> PRT

<213> Heloderma suspectum

<400> 175

Gly	Ala	Phe	Ile	Met	Pro	Gly	Thr	Leu	Trp	Cys	Gly	Ala	Gly	Asn	Ala	
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Ala	Ser	Asp	Tyr	Ser	Gln	Leu	Gly	Thr	Glu	Lys	Asp	Thr	Asp	Met	Cys	
			20					25					30			
Cys	Arg	Asp	His	Asp	His	Cys	Glu	Asn	Trp	Ile	Ser	Ala	Leu	Glu	Tyr	
		35					40					45				
Lys	His	Gly	Met	Arg	Asn	Tyr	Tyr	Pro	Ser	Thr	Ile	Ser	His	Cys	Asp	
	50					55					60					
Cys	Asp	Asn	Gln	Phe	Arg	Ser	Cys	Leu	Met	Lys	Leu	Lys	Asp	Gly	Thr	
65					70					75					80	
Ala	Asp	Tyr	Val	Gly	Gln	Thr	Tyr	Phe	Asn	Val	Leu	Lys	Ile	Pro	Cys	
				85					90					95		
Phe	Glu	Leu	Glu	Glu	Gly	Glu	Gly	Cys	Val	Asp	Trp	Asn	Phe	Trp	Leu	
			100					105					110			
Glu	Cys	Thr	Glu	Ser	Lys	Ile	Met	Pro	Val	Ala	Lys	Leu	Val	Ser	Ala	
		115					120					125				

Ala	Pro	Tyr	Gln	Ala	Gln	Ala	Glu	Thr	Gln	Ser	Gly	Glu	Gly		
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<210> 176

<211> 574

<212> PRT

<213> IgE heavy chain

<400> 176

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			20					25					30			
Gly	Ala	Ser	Val	Arg	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Ile	
		35					40					45				
Asp	Ser	Tyr	Ile	His	Trp	Ile	Arg	Gln	Ala	Pro	Gly	His	Gly	Leu	Glu	
		50				55					60					
Trp	Val	Gly	Trp	Ile	Asn	Pro	Asn	Ser	Gly	Gly	Thr	Asn	Tyr	Ala	Pro	
65					70					75					80	
Arg	Phe	Gln	Gly	Arg	Val	Thr	Met	Thr	Arg	Asp	Ala	Ser	Phe	Ser	Thr	
				85					90					95		
Ala	Tyr	Met	Asp	Leu	Arg	Ser	Leu	Arg	Ser	Asp	Asp	Ser	Ala	Val	Phe	
			100					105					110			

Tyr	Cys	Ala	Lys	Ser	Asp	Pro	Phe	Trp	Ser	Asp	Tyr	Tyr	Asn	Phe	Asp
		115					120					125			
Tyr	Ser	Tyr	Thr	Leu	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val
	130					135					140				
Ser	Ser	Ala	Ser	Thr	Gln	Ser	Pro	Ser	Val	Phe	Pro	Leu	Thr	Arg	Cys
145					150					155					160
Cys	Lys	Asn	Ile	Pro	Ser	Asn	Ala	Thr	Ser	Val	Thr	Leu	Gly	Cys	Leu
				165					170					175	
Ala	Thr	Gly	Tyr	Phe	Pro	Glu	Pro	Val	Met	Val	Thr	Trp	Asp	Thr	Gly
			180					185					190		
Ser	Leu	Asn	Gly	Thr	Thr	Met	Thr	Leu	Pro	Ala	Thr	Thr	Leu	Thr	Leu
		195					200					205			
Ser	Gly	His	Tyr	Ala	Thr	Ile	Ser	Leu	Leu	Thr	Val	Ser	Gly	Ala	Trp
	210					215					220				
Ala	Lys	Gln	Met	Phe	Thr	Cys	Arg	Val	Ala	His	Thr	Pro	Ser	Ser	Thr
225					230					235					240
Asp	Trp	Val	Asp	Asn	Lys	Thr	Phe	Ser	Val	Cys	Ser	Arg	Asp	Phe	Thr
				245					250					255	
Pro	Pro	Thr	Val	Lys	Ile	Leu	Gln	Ser	Ser	Cys	Asp	Gly	Gly	Gly	His
			260					265					270		
Phe	Pro	Pro	Thr	Ile	Gln	Leu	Leu	Cys	Leu	Val	Ser	Gly	Tyr	Thr	Pro
		275				280						285			
Gly	Thr	Ile	Asn	Ile	Thr	Trp	Leu	Glu	Asp	Gly	Gln	Val	Met	Asp	Val
	290					295					300				
Asp	Leu	Ser	Thr	Ala	Ser	Thr	Thr	Gln	Glu	Gly	Glu	Leu	Ala	Ser	Thr
305					310					315					320
Gln	Ser	Glu	Leu	Thr	Leu	Ser	Gln	Lys	His	Trp	Leu	Ser	Asp	Arg	Thr
				325					330					335	
Tyr	Thr	Cys	Gln	Val	Thr	Tyr	Gln	Gly	His	Thr	Phe	Glu	Asp	Ser	Thr
			340					345					350		
Lys	Lys	Cys	Ala	Asp	Ser	Asn	Pro	Arg	Gly	Val	Ser	Ala	Tyr	Leu	Ser
		355					360					365			
Arg	Pro	Ser	Pro	Phe	Asp	Leu	Phe	Ile	Arg	Lys	Ser	Pro	Thr	Ile	Thr
	370					375					380				
Cys	Leu	Val	Val	Asp	Leu	Ala	Pro	Ser	Lys	Gly	Thr	Val	Asn	Leu	Thr
385					390					395					400
Trp	Ser	Arg	Ala	Ser	Gly	Lys	Pro	Val	Asn	His	Ser	Thr	Arg	Lys	Glu
				405					410					415	
Glu	Lys	Gln	Arg	Asn	Gly	Thr	Leu	Thr	Val	Thr	Ser	Thr	Leu	Pro	Val
			420					425					430		
Gly	Thr	Arg	Asp	Trp	Ile	Glu	Gly	Glu	Thr	Tyr	Gln	Cys	Arg	Val	Thr
		435					440					445			

His	Pro	His	Leu	Pro	Arg	Ala	Leu	Met	Arg	Ser	Thr	Thr	Lys	Thr	Ser
	450					455					460				
Gly	Pro	Arg	Ala	Ala	Pro	Glu	Val	Tyr	Ala	Phe	Ala	Thr	Pro	Glu	Trp
465					470					475					480
Pro	Gly	Ser	Arg	Asp	Lys	Arg	Thr	Leu	Ala	Cys	Leu	Ile	Gln	Asn	Phe
				485					490					495	
Met	Pro	Glu	Asp	Ile	Ser	Val	Gln	Trp	Leu	His	Asn	Glu	Val	Gln	Leu
			500					505					510		
Pro	Asp	Ala	Arg	His	Ser	Thr	Thr	Gln	Pro	Arg	Lys	Thr	Lys	Gly	Ser
		515					520					525			
Gly	Phe	Phe	Val	Phe	Ser	Arg	Leu	Glu	Val	Thr	Arg	Ala	Glu	Trp	Glu
	530					535					540				
Gln	Lys	Asp	Glu	Phe	Ile	Cys	Arg	Ala	Val	His	Glu	Ala	Ala	Ser	Pro
545					550					555					560
Ser	Gln	Thr	Val	Gln	Arg	Ala	Val	Ser	Val	Asn	Pro	Gly	Lys		
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<400> 177  
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<210> 178  
<211> 13  
<212> PRT  
<213> IgE Peptides

<400> 178  
Cys Gly Gly Val Asn Leu Thr Trp Ser Arg Ala Ser Gly  
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<210> 179  
<211> 8  
<212> PRT  
<213> IgE Mimotype

<400> 179  
Ile Asn His Arg Gly Tyr Trp Val  
1 5

<210> 180  
<211> 8  
<212> PRT  
<213> IgE Mimotype

<400> 180  
Arg Asn His Arg Gly Tyr Trp Val  
1 5



<210> 181  
<211> 10  
<212> PRT  
<213> IgE Mimotype

<400> 181

Arg	Ser	Arg	Ser	Gly	Gly	Tyr	Trp	Leu	Trp
1				5					10

<210> 182  
<211> 10  
<212> PRT  
<213> IgE Mimotype

<400> 182

Val	Asn	Leu	Thr	Trp	Ser	Arg	Ala	Ser	Gly
1				5					10

<210> 183  
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<212> PRT  
<213> IgE Mimotype

<400> 183

Val	Asn	Leu	Pro	Trp	Ser	Arg	Ala	Ser	Gly
1				5					10

<210> 184  
<211> 10  
<212> PRT  
<213> IgE Mimotype

<400> 184

Val	Asn	Leu	Thr	Trp	Ser	Phe	Gly	Leu	Glu
1				5					10

<210> 185  
<211> 10  
<212> PRT  
<213> IgE Mimotype

<400> 185

Val	Asn	Leu	Pro	Trp	Ser	Phe	Gly	Leu	Glu
1				5					10

<210> 186  
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<212> PRT  
<213> IgE Mimotype

<400> 186

Val	Asn	Arg	Pro	Trp	Ser	Phe	Gly	Leu	Glu
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<210> 187

<211> 10  
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<400> 187  
Val Lys Leu Pro Trp Arg Phe Tyr Gln Val  
1 5 10

<210> 188  
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<213> IgE Mimotype

<400> 188  
Val Trp Thr Ala Cys Gly Tyr Gly Arg Met  
1 5 10

<210> 189  
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<212> PRT  
<213> IgE Mimotype

<400> 189  
Gly Thr Val Ser Thr Leu Ser  
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<210> 190  
<211> 7  
<212> PRT  
<213> IgE Mimotype

<400> 190  
Leu Leu Asp Ser Arg Tyr Trp  
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<210> 191  
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<400> 191  
Gln Pro Ala His Ser Leu Gly  
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<210> 192  
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<212> PRT  
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<400> 192  
Leu Trp Gly Met Gln Gly Arg  
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<210> 193  
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<212> PRT  
<213> IgE Mimotype

<400> 193  
Leu Thr Leu Ser His Pro His Trp Val Leu Asn His Phe Val Ser  
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<210> 194  
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<212> PRT  
<213> IgE Mimotype

<400> 194  
Ser Met Gly Pro Asp Gln Thr Leu Arg  
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<210> 195  
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<212> PRT  
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<400> 195  
Val Asn Leu Thr Trp Ser  
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<210> 196  
<211> 56  
<212> DNA  
<213> Oligonucleotide Primer

<400> 196  
tagatgatta cgccaagctt ataatagaaa tagttttttg aaaggaaagc agcatg 56

<210> 197  
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<212> DNA  
<213> Oligonucleotide Primer

<400> 197  
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<210> 198  
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<212> DNA  
<213> pFIMAIC

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<210> 207  
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 <212> PRT  
 <213> Ce3epitope

<400> 207  
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<210> 208  
 <211> 13  
 <212> PRT  
 <213> Ce3mimotope

<400> 208  
 Cys Gly Gly Val Asn Leu Pro Trp Ser Phe Gly Leu Glu  
 1 5 10

<210> 209  
 <211> 9  
 <212> PRT  
 <213> Bee venom phospholipase A2 cloning vector

<400> 209  
 Ala Ala Ala Ser Gly Gly Cys Gly Gly  
 1 5

<210> 210  
 <211> 145



<212> PRT  
<213> PLA2 fusion protein

<400> 210  
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Ser Ser Gly Pro Asn Glu Leu Gly Arg Phe Lys His Thr Asp Ala Cys  
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Cys Arg Thr Gln Asp Met Cys Pro Asp Val Met Ser Ala Gly Glu Ser  
35 40 45  
Lys His Gly Leu Thr Asn Thr Ala Ser His Thr Arg Leu Ser Cys Asp  
50 55 60  
Cys Asp Asp Lys Phe Tyr Asp Cys Leu Lys Asn Ser Ala Asp Thr Ile  
65 70 75 80  
Ser Ser Tyr Phe Val Gly Lys Met Tyr Phe Asn Leu Ile Asp Thr Lys  
85 90 95  
Cys Tyr Lys Leu Glu His Pro Val Thr Gly Cys Gly Glu Arg Thr Glu  
100 105 110  
Gly Arg Cys Leu His Tyr Thr Val Asp Lys Ser Lys Pro Lys Val Tyr  
115 120 125  
Gln Trp Phe Asp Leu Arg Lys Tyr Ala Ala Ala Ser Gly Gly Cys Gly  
130 135 140  
Gly  
145

<210> 211  
<211> 17  
<212> PRT  
<213> Ce4mimotope

<400> 211  
Gly Glu Phe Cys Ile Asn His Arg Gly Tyr Trp Val Cys Gly Asp Pro  
1 5 10 15  
Ala

<210> 212  
<211> 27  
<212> PRT  
<213> Synthetic M2 Peptide

<400> 212  
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Cys  
1 5 10 15  
Arg Cys Asn Gly Ser Ser Asp Gly Gly Gly Cys  
20 25

<210> 213  
<211> 97  
<212> PRT

<213> Matrix protein M2

<400> 213

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Met Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly
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Cys Arg Cys Asn Gly Ser Ser Asp Pro Leu Ala Ile Ala Ala Asn Ile
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Ile Gly Ile Leu His Leu Ile Leu Trp Ile Leu Asp Arg Leu Phe Phe
          35          40          45

Lys Cys Ile Tyr Arg Arg Phe Lys Tyr Gly Leu Lys Gly Gly Pro Ser
          50          55          60

Thr Glu Gly Val Pro Lys Ser Met Arg Glu Glu Tyr Arg Lys Glu Gln
65          70          75          80

Gln Ser Ala Val Asp Ala Asp Asp Gly His Phe Val Ser Ile Glu Leu
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Glu

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<210> 214

<211> 42

<212> DNA

<213> Oligonucleotide

<400> 214

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42

<210> 215

<211> 129

<212> PRT

<213> Bacteriophage f2

<400> 215

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Ala Ser Asn Phe Thr Gln Phe Val Leu Val Asn Asp Gly Gly Thr Gly
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Asn Val Thr Val Ala Pro Ser Asn Phe Ala Asn Gly Val Ala Glu Trp
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Ile Ser Ser Asn Ser Arg Ser Gln Ala Tyr Lys Val Thr Cys Ser Val
          35          40          45

Arg Gln Ser Ser Ala Gln Asn Arg Lys Tyr Thr Ile Lys Val Glu Val
          50          55          60

Pro Lys Val Ala Thr Gln Thr Val Gly Gly Val Glu Leu Pro Val Ala
65          70          75          80

Ala Trp Arg Ser Tyr Leu Asn Leu Glu Leu Thr Ile Pro Ile Phe Ala
          85          90          95

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Thr Asn Ser Asp Cys Glu Leu Ile Val Lys Ala Met Gln Gly Leu Leu  
100 105 110

Lys Asp Gly Asn Pro Ile Pro Ser Ala Ile Ala Ala Asn Ser Gly Ile  
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Tyr

<210> 216  
<211> 17  
<212> PRT  
<213> Circular Mimotope

<400> 216

Gly Glu Phe Cys Ile Asn His Arg Gly Tyr Trp Val Cys Gly Asp Pro  
1 5 10 15

Ala

<210> 217  
<211> 329  
<212> PRT  
<213> Bacteriophage Q-beta

<400> 217

Met Ala Lys Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Lys Asp Gly  
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Lys Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly  
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Val Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg  
35 40 45

Val Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys  
50 55 60

Val Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser  
65 70 75 80

Cys Asp Pro Ser Val Thr Arg Gln Ala Tyr Ala Asp Val Thr Phe Ser  
85 90 95

Phe Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu  
100 105 110

Leu Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln  
115 120 125

Leu Asn Pro Ala Tyr Trp Thr Leu Leu Ile Ala Gly Gly Gly Ser Gly  
130 135 140

Ser Lys Pro Asp Pro Val Ile Pro Asp Pro Pro Ile Asp Pro Pro Pro  
145 150 155 160

Gly Thr Gly Lys Tyr Thr Cys Pro Phe Ala Ile Trp Ser Leu Glu Glu  
165 170 175

Val Tyr Glu Pro Pro Thr Lys Asn Arg Pro Trp Pro Ile Tyr Asn Ala  
180 185 190

Val Glu Leu Gln Pro Arg Glu Phe Asp Val Ala Leu Lys Asp Leu Leu  
195 200 205

Gly Asn Thr Lys Trp Arg Asp Trp Asp Ser Arg Leu Ser Tyr Thr Thr  
210 215 220

Phe Arg Gly Cys Arg Gly Asn Gly Tyr Ile Asp Leu Asp Ala Thr Tyr  
225 230 235 240

Leu Ala Thr Asp Gln Ala Met Arg Asp Gln Lys Tyr Asp Ile Arg Glu  
245 250 255

Gly Lys Lys Pro Gly Ala Phe Gly Asn Ile Glu Arg Phe Ile Tyr Leu  
260 265 270

Lys Ser Ile Asn Ala Tyr Cys Ser Leu Ser Asp Ile Ala Ala Tyr His  
275 280 285

Ala Asp Gly Val Ile Val Gly Phe Trp Arg Asp Pro Ser Ser Gly Gly  
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Ala Ile Pro Phe Asp Phe Thr Lys Phe Asp Lys Thr Lys Cys Pro Ile  
305 310 315 320

Gln Ala Val Ile Val Val Pro Arg Ala  
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<210> 218  
<211> 770  
<212> PRT

<213> Amyloid-Beta Protein (Homo Sapiens)

<400> 218

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Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro  
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Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln  
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp  
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu  
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn  
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val  
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu  
115 120 125

Val	Pro	Asp	Lys	Cys	Lys	Phe	Leu	His	Gln	Glu	Arg	Met	Asp	Val	Cys	
	130					135					140					
Glu	Thr	His	Leu	His	Trp	His	Thr	Val	Ala	Lys	Glu	Thr.	Cys	Ser	Glu	
145					150					155					160	
Lys	Ser	Thr	Asn	Leu	His	Asp	Tyr	Gly	Met	Leu	Leu	Pro	Cys	Gly	Ile	
				165					170					175		
Asp	Lys	Phe	Arg	Gly	Val	Glu	Phe	Val	Cys	Cys	Pro	Leu	Ala	Glu	Glu	
			180					185					190			
Ser	Asp	Asn	Val	Asp	Ser	Ala	Asp	Ala	Glu	Glu	Asp	Asp	Ser	Asp	Val	
		195					200					205				
Trp	Trp	Gly	Gly	Ala	Asp	Thr	Asp	Tyr	Ala	Asp	Gly	Ser	Glu	Asp	Lys	
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Val	Val	Glu	Val	Ala	Glu	Glu	Glu	Glu	Val	Ala	Glu	Val	Glu	Glu	Glu	
225					230					235					240	
Glu	Ala	Asp	Asp	Asp	Glu	Asp	Asp	Glu	Asp	Gly	Asp	Glu	Val	Glu	Glu	
				245					250					255		
Glu	Ala	Glu	Glu	Pro	Tyr	Glu	Glu	Ala	Thr	Glu	Arg	Thr	Thr	Ser	Ile	
			260					265					270			
Ala	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Glu	Ser	Val	Glu	Glu	Val	Val	Arg	
		275					280					285				
Glu	Val	Cys	Ser	Glu	Gln	Ala	Glu	Thr	Gly	Pro	Cys	Arg	Ala	Met	Ile	
	290					295					300					
Ser	Arg	Trp	Tyr	Phe	Asp	Val	Thr	Glu	Gly	Lys	Cys	Ala	Pro	Phe	Phe	
305					310					315					320	
Tyr	Gly	Gly	Cys	Gly	Gly	Asn	Arg	Asn	Asn	Phe	Asp	Thr	Glu	Glu	Tyr	
				325					330					335		
Cys	Met	Ala	Val	Cys	Gly	Ser	Ala	Met	Ser	Gln	Ser	Leu	Leu	Lys	Thr	
			340					345					350			
Thr	Gln	Glu	Pro	Leu	Ala	Arg	Asp	Pro	Val	Lys	Leu	Pro	Thr	Thr	Ala	
		355					360					365				
Ala	Ser	Thr	Pro	Asp	Ala	Val	Asp	Lys	Tyr	Leu	Glu	Thr	Pro	Gly	Asp	
		370				375					380					
Glu	Asn	Glu	His	Ala	His	Phe	Gln	Lys	Ala	Lys	Glu	Arg	Leu	Glu	Ala	
385					390					395					400	
Lys	His	Arg	Glu	Arg	Met	Ser	Gln	Val	Met	Arg	Glu	Trp	Glu	Glu	Ala	
				405					410					415		
Glu	Arg	Gln	Ala	Lys	Asn	Leu	Pro	Lys	Ala	Asp	Lys	Lys	Ala	Val	Ile	
			420					425					430			
Gln	His	Phe	Gln	Glu	Lys	Val	Glu	Ser	Leu	Glu	Gln	Glu	Ala	Ala	Asn	
		435					440					445				
Glu	Arg	Gln	Gln	Leu	Val	Glu	Thr	His	Met	Ala	Arg	Val	Glu	Ala	Met	
	450					455					460					

Leu	Asn	Asp	Arg	Arg	Arg	Leu	Ala	Leu	Glu	Asn	Tyr	Ile	Thr	Ala	Leu
465					470					475					480
Gln	Ala	Val	Pro	Pro	Arg	Pro	Arg	His	Val	Phe	Asn	Met	Leu	Lys	Lys
				485					490					495	
Tyr	Val	Arg	Ala	Glu	Gln	Lys	Asp	Arg	Gln	His	Thr	Leu	Lys	His	Phe
			500					505					510		
Glu	His	Val	Arg	Met	Val	Asp	Pro	Lys	Lys	Ala	Ala	Gln	Ile	Arg	Ser
		515					520					525			
Gln	Val	Met	Thr	His	Leu	Arg	Val	Ile	Tyr	Glu	Arg	Met	Asn	Gln	Ser
	530					535					540				
Leu	Ser	Leu	Leu	Tyr	Asn	Val	Pro	Ala	Val	Ala	Glu	Glu	Ile	Gln	Asp
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Glu	Val	Asp	Glu	Leu	Leu	Gln	Lys	Glu	Gln	Asn	Tyr	Ser	Asp	Asp	Val
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Leu	Ala	Asn	Met	Ile	Ser	Glu	Pro	Arg	Ile	Ser	Tyr	Gly	Asn	Asp	Ala
			580					585					590		
Leu	Met	Pro	Ser	Leu	Thr	Glu	Thr	Lys	Thr	Thr	Val	Glu	Leu	Leu	Pro
		595					600					605			
Val	Asn	Gly	Glu	Phe	Ser	Leu	Asp	Asp	Leu	Gln	Pro	Trp	His	Ser	Phe
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Gly	Ala	Asp	Ser	Val	Pro	Ala	Asn	Thr	Glu	Asn	Glu	Val	Glu	Pro	Val
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Asp	Ala	Arg	Pro	Ala	Ala	Asp	Arg	Gly	Leu	Thr	Thr	Arg	Pro	Gly	Ser
				645					650					655	
Gly	Leu	Thr	Asn	Ile	Lys	Thr	Glu	Glu	Ile	Ser	Glu	Val	Lys	Met	Asp
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Ala	Glu	Phe	Arg	His	Asp	Ser	Gly	Tyr	Glu	Val	His	His	Gln	Lys	Leu
		675					680					685			
Val	Phe	Phe	Ala	Glu	Asp	Val	Gly	Ser	Asn	Lys	Gly	Ala	Ile	Ile	Gly
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Leu	Met	Val	Gly	Gly	Val	Val	Ile	Ala	Thr	Val	Ile	Val	Ile	Thr	Leu
705					710					715					720
Val	Met	Leu	Lys	Lys	Lys	Gln	Tyr	Thr	Ser	Ile	His	His	Gly	Val	Val
				725					730					735	
Glu	Val	Asp	Ala	Ala	Val	Thr	Pro	Glu	Glu	Arg	His	Leu	Ser	Lys	Met
			740					745					750		
Gln	Gln	Asn	Gly	Tyr	Glu	Asn	Pro	Thr	Tyr	Lys	Phe	Phe	Glu	Gln	Met
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Gln	Asn														
	770														

<210> 219

<211> 82

<212> PRT  
<213> Beta-Amyloid Peptide Precursor (Homo Sapiens)

<400> 219

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			20					25					30		
Lys	Leu	Val	Phe	Phe	Ala	Glu	Asp	Val	Gly	Ser	Asn	Lys	Gly	Ala	Ile
		35					40					45			
Ile	Gly	Leu	Met	Val	Gly	Gly	Val	Val	Ile	Ala	Thr	Val	Ile	Ile	Ile
	50					55					60				
Thr	Leu	Val	Met	Leu	Lys	Lys	Gln	Tyr	Thr	Ser	Asn	His	His	Gly	Val
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Val Glu															

<210> 220  
<211> 42  
<212> PRT  
<213> Amyloid Beta Peptide

<400> 220

Asp	Ala	Glu	Phe	Arg	His	Asp	Ser	Gly	Tyr	Glu	Val	His	His	Gln	Lys
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Leu	Val	Phe	Phe	Ala	Glu	Asp	Val	Gly	Ser	Asn	Lys	Gly	Ala	Ile	Ile
			20					25					30		
Gly	Leu	Met	Val	Gly	Gly	Val	Val	Ile	Ala						
		35					40								

<210> 221  
<211> 249  
<212> PRT  
<213> Homo sapiens

<400> 221

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His	Cys	Ile	Tyr	Arg	Ile	Leu	Arg	Leu	His	Glu	Asn	Ala	Asp	Phe	Gln
			20					25					30		
Asp	Thr	Thr	Leu	Glu	Ser	Gln	Asp	Thr	Lys	Leu	Ile	Pro	Asp	Ser	Cys
		35					40					45			
Arg Arg Ile Lys Gln Ala Phe Gln Gly Ala Val Gln Lys Glu Leu Gln															

50		55		60
His Ile Val Gly Ser Gln His Ile Arg Ala Glu Lys Ala Met Val Asp				
65		70		75 80
Gly Ser Trp Leu Asp Leu Ala Lys Arg Ser Lys Leu Glu Ala Gln Pro				
	85		90	95
Phe Ala His Leu Thr Ile Asn Ala Thr Asp Ile Pro Ser Gly Ser His				
	100		105	110
Lys Val Ser Leu Ser Ser Trp Tyr His Asp Arg Gly Trp Ala Lys Ile				
	115		120	125
Ser Asn Met Thr Phe Ser Asn Gly Lys Leu Ile Val Asn Gln Asp Gly				
	130		135	140
Phe Tyr Tyr Leu Tyr Ala Asn Ile Cys Phe Arg His His Glu Thr Ser				
145		150		155 160
Gly Asp Leu Ala Thr Glu Tyr Leu Gln Leu Met Val Tyr Val Thr Lys				
	165		170	175
Thr Ser Ile Lys Ile Pro Ser Ser His Thr Leu Met Lys Gly Gly Ser				
	180		185	190
Thr Lys Tyr Trp Ser Gly Asn Ser Glu Phe His Phe Tyr Ser Ile Asn				
	195		200	205
Val Gly Gly Phe Phe Lys Leu Arg Ser Gly Glu Glu Ile Ser Ile Glu				
	210		215	220
Val Ser Asn Pro Ser Leu Leu Asp Pro Asp Gln Asp Ala Thr Tyr Phe				
225		230		235 240
Gly Ala Phe Lys Val Arg Asp Ile Asp				
	245			
<210> 222				
<211> 244				
<212> PRT				
<213> Homo sapiens				
<400> 222				
Met Asp Pro Asn Arg Ile Ser Glu Asp Gly Thr His Cys Ile Tyr Arg				
1		5		10 15

Ile	Leu	Arg	Leu	His	Glu	Asn	Ala	Asp	Phe	Gln	Asp	Thr	Thr	Leu	Glu
			20					25					30		
Ser	Gln	Asp	Thr	Lys	Leu	Ile	Pro	Asp	Ser	Cys	Arg	Arg	Ile	Lys	Gln
		35					40					45			
Ala	Phe	Gln	Gly	Ala	Val	Gln	Lys	Glu	Leu	Gln	His	Ile	Val	Gly	Ser
	50					55					60				
Gln	His	Ile	Arg	Ala	Glu	Lys	Ala	Met	Val	Asp	Gly	Ser	Trp	Leu	Asp
65					70					75					80
Leu	Ala	Lys	Arg	Ser	Lys	Leu	Glu	Ala	Gln	Pro	Phe	Ala	His	Leu	Thr
				85					90					95	
Ile	Asn	Ala	Thr	Asp	Ile	Pro	Ser	Gly	Ser	His	Lys	Val	Ser	Leu	Ser
			100					105					110		
Ser	Trp	Tyr	His	Asp	Arg	Gly	Trp	Ala	Lys	Ile	Ser	Asn	Met	Thr	Phe
		115					120					125			
Ser	Asn	Gly	Lys	Leu	Ile	Val	Asn	Gln	Asp	Gly	Phe	Tyr	Tyr	Leu	Tyr
	130					135					140				
Ala	Asn	Ile	Cys	Phe	Arg	His	His	Glu	Thr	Ser	Gly	Asp	Leu	Ala	Thr
145					150					155					160
Glu	Tyr	Leu	Gln	Leu	Met	Val	Tyr	Val	Thr	Lys	Thr	Ser	Ile	Lys	Ile
				165					170					175	
Pro	Ser	Ser	His	Thr	Leu	Met	Lys	Gly	Gly	Ser	Thr	Lys	Tyr	Trp	Ser
			180					185					190		
Gly	Asn	Ser	Glu	Phe	His	Phe	Tyr	Ser	Ile	Asn	Val	Gly	Gly	Phe	Phe
		195					200					205			
Lys	Leu	Arg	Ser	Gly	Glu	Glu	Ile	Ser	Ile	Glu	Val	Ser	Asn	Pro	Ser
	210					215					220				
Leu	Leu	Asp	Pro	Asp	Gln	Asp	Ala	Thr	Tyr	Phe	Gly	Ala	Phe	Lys	Val
225					230					235					240
Arg	Asp	Ile	Asp												

<210> 223  
 <211> 247

<212> PRT  
<213> Mus musculus

<400> 223

Tyr Phe Arg Ala Gln Met Asp Pro Asn Arg Ile Ser Glu Asp Ser Thr  
1 5 10 15

His Cys Phe Tyr Arg Ile Leu Arg Leu His Glu Asn Ala Gly Leu Gln  
20 25 30

Asp Ser Thr Leu Glu Ser Glu Asp Thr Leu Pro Asp Ser Cys Arg Arg  
35 40 45

Met Lys Gln Ala Phe Gln Gly Ala Val Gln Lys Glu Leu Gln His Ile  
50 55 60

Val Gly Pro Gln Arg Phe Ser Gly Ala Pro Ala Met Met Glu Gly Ser  
65 70 75 80

Trp Leu Asp Val Ala Gln Arg Gly Lys Pro Glu Ala Gln Pro Phe Ala  
85 90 95

His Leu Thr Ile Asn Ala Ala Ser Ile Pro Ser Gly Ser His Lys Val  
100 105 110

Thr Leu Ser Ser Trp Tyr His Asp Arg Gly Trp Ala Lys Ile Ser Asn  
115 120 125

Met Thr Leu Ser Asn Gly Lys Leu Arg Val Asn Gln Asp Gly Phe Tyr  
130 135 140

Tyr Leu Tyr Ala Asn Ile Cys Phe Arg His His Glu Thr Ser Gly Ser  
145 150 155 160

Val Pro Thr Asp Tyr Leu Gln Leu Met Val Tyr Val Val Lys Thr Ser  
165 170 175

Ile Lys Ile Pro Ser Ser His Asn Leu Met Lys Gly Gly Ser Thr Lys  
180 185 190

Asn Trp Ser Gly Asn Ser Glu Phe His Phe Tyr Ser Ile Asn Val Gly  
195 200 205

Gly Phe Phe Lys Leu Arg Ala Gly Glu Glu Ile Ser Ile Gln Val Ser  
210 215 220

Asn Pro Ser Leu Leu Asp Pro Asp Gln Asp Ala Thr Tyr Phe Gly Ala



225

230

235

240

Phe Lys Val Gln Asp Ile Asp  
245

<210> 224  
<211> 199  
<212> PRT  
<213> Mus musculus

<400> 224

Met Lys Gln Ala Phe Gln Gly Ala Val Gln Lys Glu Leu Gln His Ile  
1 5 10 15

Val Gly Pro Gln Arg Phe Ser Gly Ala Pro Ala Met Met Glu Gly Ser  
20 25 30

Trp Leu Asp Val Ala Gln Arg Gly Lys Pro Glu Ala Gln Pro Phe Ala  
35 40 45

His Leu Thr Ile Asn Ala Ala Ser Ile Pro Ser Gly Ser His Lys Val  
50 55 60

Thr Leu Ser Ser Trp Tyr His Asp Arg Gly Trp Ala Lys Ile Ser Asn  
65 70 75 80

Met Thr Leu Ser Asn Gly Lys Leu Arg Val Asn Gln Asp Gly Phe Tyr  
85 90 95

Tyr Leu Tyr Ala Asn Ile Cys Phe Arg His His Glu Thr Ser Gly Ser  
100 105 110

Val Pro Thr Asp Tyr Leu Gln Leu Met Val Tyr Val Val Lys Thr Ser  
115 120 125

Ile Lys Ile Pro Ser Ser His Asn Leu Met Lys Gly Gly Ser Thr Lys  
130 135 140

Asn Trp Ser Gly Asn Ser Glu Phe His Phe Tyr Ser Ile Asn Val Gly  
145 150 155 160

Gly Phe Phe Lys Leu Arg Ala Gly Glu Glu Ile Ser Ile Gln Val Ser  
165 170 175

Asn Pro Ser Leu Leu Asp Pro Asp Gln Asp Ala Thr Tyr Phe Gly Ala  
180 185 190

Phe Lys Val Gln Asp Ile Asp  
195

<210> 225  
<211> 114  
<212> PRT  
<213> Rattus sp.

<400> 225

Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro Glu  
1 5 10 15

Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly Lys  
20 25 30

Pro Ala Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met Thr  
35 40 45

Phe Ser Gly Thr Ser Asp Pro Cys Ala Leu Cys Ser Leu His Ser Ile  
50 55 60

Gly Lys Ile Gly Gly Ala Gln Asn Arg Asn Tyr Ser Lys Leu Leu Cys  
65 70 75 80

Gly Leu Leu Ser Asp Arg Leu His Ile Ser Pro Asp Arg Val Tyr Ile  
85 90 95

Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Gly Ser Thr  
100 105 110

Phe Ala

<210> 226  
<211> 114  
<212> PRT  
<213> Mus musculus

<400> 226

Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro Glu  
1 5 10 15

Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly Lys  
20 25 30

Pro Ala Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met Thr  
35 40 45

Phe Ser Gly Thr Asn Asp Pro Cys Ala Leu Cys Ser Leu His Ser Ile  
50 55 60

Gly Lys Ile Gly Gly Ala Gln Asn Arg Asn Tyr Ser Lys Leu Leu Cys  
65 70 75 80

Gly Leu Leu Ser Asp Arg Leu His Ile Ser Pro Asp Arg Val Tyr Ile  
85 90 95

Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Gly Ser Thr  
100 105 110

Phe Ala

<210> 227  
<211> 114  
<212> PRT  
<213> Homo sapiens

<400> 227

Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro Asp  
1 5 10 15

Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly Lys  
20 25 30

Pro Pro Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met Ala  
35 40 45

Phe Gly Gly Ser Ser Glu Pro Cys Ala Leu Cys Ser Leu His Ser Ile  
50 55 60

Gly Lys Ile Gly Gly Ala Gln Asn Arg Ser Tyr Ser Lys Leu Leu Cys  
65 70 75 80

Gly Leu Leu Ala Glu Arg Leu Arg Ile Ser Pro Asp Arg Val Tyr Ile  
85 90 95

Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Asn Ser Thr  
100 105 110

Phe Ala

<210> 228  
<211> 155  
<212> PRT

<213> Homo sapiens

<400> 228

Met Thr Pro Gly Lys Thr Ser Leu Val Ser Leu Leu Leu Leu Leu Ser  
1 5 10 15

Leu Glu Ala Ile Val Lys Ala Gly Ile Thr Ile Pro Arg Asn Pro Gly  
20 25 30

Cys Pro Asn Ser Glu Asp Lys Asn Phe Pro Arg Thr Val Met Val Asn  
35 40 45

Leu Asn Ile His Asn Arg Asn Thr Asn Thr Asn Pro Lys Arg Ser Ser  
50 55 60

Asp Tyr Tyr Asn Arg Ser Thr Ser Pro Trp Asn Leu His Arg Asn Glu  
65 70 75 80

Asp Pro Glu Arg Tyr Pro Ser Val Ile Trp Glu Ala Lys Cys Arg His  
85 90 95

Leu Gly Cys Ile Asn Ala Asp Gly Asn Val Asp Tyr His Met Asn Ser  
100 105 110

Val Pro Ile Gln Gln Glu Ile Leu Val Leu Arg Arg Glu Pro Pro His  
115 120 125

Cys Pro Asn Ser Phe Arg Leu Glu Lys Ile Leu Val Ser Val Gly Cys  
130 135 140

Thr Cys Val Thr Pro Ile Val His His Val Ala  
145 150 155

<210> 229

<211> 158

<212> PRT

<213> Mus musculus

<400> 229

Met Ser Pro Gly Arg Ala Ser Ser Val Ser Leu Met Leu Leu Leu Leu  
1 5 10 15

Leu Ser Leu Ala Ala Thr Val Lys Ala Ala Ala Ile Ile Pro Gln Ser  
20 25 30

Ser Ala Cys Pro Asn Thr Glu Ala Lys Asp Phe Leu Gln Asn Val Lys  
35 40 45

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Val Asn Leu Lys Val Phe Asn Ser Leu Gly Ala Lys Val Ser Ser Arg  
50 55 60

Arg Pro Ser Asp Tyr Leu Asn Arg Ser Thr Ser Pro Trp Thr Leu His  
65 70 75 80

Arg Asn Glu Asp Pro Asp Arg Tyr Pro Ser Val Ile Trp Glu Ala Gln  
85 90 95

Cys Arg His Gln Arg Cys Val Asn Ala Glu Gly Lys Leu Asp His His  
100 105 110

Met Asn Ser Val Leu Ile Gln Gln Glu Ile Leu Val Leu Lys Arg Glu  
115 120 125

Pro Glu Ser Cys Pro Phe Thr Phe Arg Val Glu Lys Met Leu Val Gly  
130 135 140

Val Gly Cys Thr Cys Val Ala Ser Ile Val Arg Gln Ala Ala  
145 150 155

<210> 230

<211> 132

<212> PRT

<213> Homo sapiens

<400> 230

Met Ala Leu Leu Leu Thr Thr Val Ile Ala Leu Thr Cys Leu Gly Gly  
1 5 10 15

Phe Ala Ser Pro Gly Pro Val Pro Pro Ser Thr Ala Leu Arg Glu Leu  
20 25 30

Ile Glu Glu Leu Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys  
35 40 45

Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr Cys  
50 55 60

Ala Ala Leu Glu Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu  
65 70 75 80

Lys Thr Gln Arg Met Leu Ser Gly Phe Cys Pro His Lys Val Ser Ala  
85 90 95

Gly Gln Phe Ser Ser Leu His Val Arg Asp Thr Lys Ile Glu Val Ala  
100 105 110

Gln Phe Val Lys Asp Leu Leu Leu His Leu Lys Lys Leu Phe Arg Glu  
115 120 125

Gly Arg Phe Asn  
130

<210> 231  
<211> 112  
<212> PRT  
<213> Homo sapiens

<400> 231

Gly Pro Val Pro Pro Ser Thr Ala Leu Arg Glu Leu Ile Glu Glu Leu  
1 5 10 15

Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met  
20 25 30

Val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Glu  
35 40 45

Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu Lys Thr Gln Arg  
50 55 60

Met Leu Ser Gly Phe Cys Pro His Lys Val Ser Ala Gly Gln Phe Ser  
65 70 75 80

Ser Leu His Val Arg Asp Thr Lys Ile Glu Val Ala Gln Phe Val Lys  
85 90 95

Asp Leu Leu Leu His Leu Lys Lys Leu Phe Arg Glu Gly Arg Phe Asn  
100 105 110

<210> 232  
<211> 111  
<212> PRT  
<213> Mus musculus

<400> 232

Gly Pro Val Pro Arg Ser Val Ser Leu Pro Leu Thr Leu Lys Glu Leu  
1 5 10 15

Ile Glu Glu Leu Ser Asn Ile Thr Gln Asp Gln Thr Pro Leu Cys Asn  
20 25 30

Gly Ser Met Val Trp Ser Val Asp Leu Ala Ala Gly Gly Phe Cys Val  
35 40 45

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Ala Leu Asp Ser Leu Thr Asn Ile Ser Asn Cys Asn Ala Ile Tyr Arg  
50 55 60

Thr Gln Arg Ile Leu His Gly Leu Cys Asn Arg Lys Ala Pro Thr Thr  
65 70 75 80

Val Ser Ser Leu Pro Asp Thr Lys Ile Glu Val Ala His Phe Ile Thr  
85 90 95

Lys Leu Leu Ser Tyr Thr Lys Gln Leu Phe Arg His Gly Pro Phe  
100 105 110

<210> 233  
<211> 134  
<212> PRT  
<213> Homo sapiens

<400> 233

Met Arg Met Leu Leu His Leu Ser Leu Leu Ala Leu Gly Ala Ala Tyr  
1 5 10 15

Val Tyr Ala Ile Pro Thr Glu Ile Pro Thr Ser Ala Leu Val Lys Glu  
20 25 30

Thr Leu Ala Leu Leu Ser Thr His Arg Thr Leu Leu Ile Ala Asn Glu  
35 40 45

Thr Leu Arg Ile Pro Val Pro Val His Lys Asn His Gln Leu Cys Thr  
50 55 60

Glu Glu Ile Phe Gln Gly Ile Gly Thr Leu Glu Ser Gln Thr Val Gln  
65 70 75 80

Gly Gly Thr Val Glu Arg Leu Phe Lys Asn Leu Ser Leu Ile Lys Lys  
85 90 95

Tyr Ile Asp Gly Gln Lys Lys Lys Cys Gly Glu Glu Arg Arg Arg Val  
100 105 110

Asn Gln Phe Leu Asp Tyr Leu Gln Glu Phe Leu Gly Val Met Asn Thr  
115 120 125

Glu Trp Ile Ile Glu Ser  
130

<210> 234  
<211> 115  
<212> PRT

<213> Homo sapiens

<400> 234

Ile Pro Thr Glu Ile Pro Thr Ser Ala Leu Val Lys Glu Thr Leu Ala  
1 5 10 15

Leu Leu Ser Thr His Arg Thr Leu Leu Ile Ala Asn Glu Thr Leu Arg  
20 25 30

Ile Pro Val Pro Val His Lys Asn His Gln Leu Cys Thr Glu Glu Ile  
35 40 45

Phe Gln Gly Ile Gly Thr Leu Glu Ser Gln Thr Val Gln Gly Gly Thr  
50 55 60

Val Glu Arg Leu Phe Lys Asn Leu Ser Leu Ile Lys Lys Tyr Ile Asp  
65 70 75 80

Gly Gln Lys Lys Lys Cys Gly Glu Glu Arg Arg Arg Val Asn Gln Phe  
85 90 95

Leu Asp Tyr Leu Gln Glu Phe Leu Gly Val Met Asn Thr Glu Trp Ile  
100 105 110

Ile Glu Ser  
115

<210> 235

<211> 113

<212> PRT

<213> Mus musculus

<400> 235

Met Glu Ile Pro Met Ser Thr Val Val Lys Glu Thr Leu Thr Gln Leu  
1 5 10 15

Ser Ala His Arg Ala Leu Leu Thr Ser Asn Glu Thr Met Arg Leu Pro  
20 25 30

Val Pro Thr His Lys Asn His Gln Leu Cys Ile Gly Glu Ile Phe Gln  
35 40 45

Gly Leu Asp Ile Leu Lys Asn Gln Thr Val Arg Gly Gly Thr Val Glu  
50 55 60

Met Leu Phe Gln Asn Leu Ser Leu Ile Lys Lys Tyr Ile Asp Arg Gln  
65 70 75 80



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Lys Glu Lys Cys Gly Glu Glu Arg Arg Arg Thr Arg Gln Phe Leu Asp  
85 90 95

Tyr Leu Gln Glu Phe Leu Gly Val Met Ser Thr Glu Trp Ala Met Glu  
100 105 110

Gly

<210> 236  
<211> 111  
<212> PRT  
<213> Homo sapiens

<400> 236

Ser Asp Gly Gly Ala Gln Asp Cys Cys Leu Lys Tyr Ser Gln Arg Lys  
1 5 10 15

Ile Pro Ala Lys Val Val Arg Ser Tyr Arg Lys Gln Glu Pro Ser Leu  
20 25 30

Gly Cys Ser Ile Pro Ala Ile Leu Phe Leu Pro Arg Lys Arg Ser Gln  
35 40 45

Ala Glu Leu Cys Ala Asp Pro Lys Glu Leu Trp Val Gln Gln Leu Met  
50 55 60

Gln His Leu Asp Lys Thr Pro Ser Pro Gln Lys Pro Ala Gln Gly Cys  
65 70 75 80

Arg Lys Asp Arg Gly Ala Ser Lys Thr Gly Lys Lys Gly Lys Gly Ser  
85 90 95

Lys Gly Cys Lys Arg Thr Glu Arg Ser Gln Thr Pro Lys Gly Pro  
100 105 110

<210> 237  
<211> 110  
<212> PRT  
<213> Mus musculus

<400> 237

Ser Asp Gly Gly Gly Gln Asp Cys Cys Leu Lys Tyr Ser Gln Lys Lys  
1 5 10 15

Ile Pro Tyr Ser Ile Val Arg Gly Tyr Arg Lys Gln Glu Pro Ser Leu  
20 25 30

Gly Cys Pro Ile Pro Ala Ile Leu Phe Ser Pro Arg Lys His Ser Lys  
35 40 45

Pro Glu Leu Cys Ala Asn Pro Glu Glu Gly Trp Val Gln Asn Leu Met  
50 55 60

Arg Arg Leu Asp Gln Pro Pro Ala Pro Gly Lys Gln Ser Pro Gly Cys  
65 70 75 80

Arg Lys Asn Arg Gly Thr Ser Lys Ser Gly Lys Lys Gly Lys Gly Ser  
85 90 95

Lys Gly Cys Lys Arg Thr Glu Gln Thr Gln Pro Ser Arg Gly  
100 105 110

<210> 238  
<211> 74  
<212> PRT  
<213> Homo sapiens

<400> 238

Asp Gly Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe  
1 5 10 15

Glu Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn  
20 25 30

Thr Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn  
35 40 45

Arg Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu  
50 55 60

Glu Lys Ala Leu Asn Lys Arg Phe Lys Met  
65 70

<210> 239  
<211> 70  
<212> PRT  
<213> Mus musculus

<400> 239

Asp Gly Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe  
1 5 10 15

Glu Ser His Ile Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn  
20 25 30

Thr Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn  
35 40 45

Arg Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu  
50 55 60

Glu Lys Ala Leu Asn Lys  
65 70

<210> 240  
<211> 109  
<212> PRT  
<213> Homo sapiens

<400> 240

Met Lys Phe Ile Ser Thr Ser Leu Leu Leu Met Leu Leu Val Ser Ser  
1 5 10 15

Leu Ser Pro Val Gln Gly Val Leu Glu Val Tyr Tyr Thr Ser Leu Arg  
20 25 30

Cys Arg Cys Val Gln Glu Ser Ser Val Phe Ile Pro Arg Arg Phe Ile  
35 40 45

Asp Arg Ile Gln Ile Leu Pro Arg Gly Asn Gly Cys Pro Arg Lys Glu  
50 55 60

Ile Ile Val Trp Lys Lys Asn Lys Ser Ile Val Cys Val Asp Pro Gln  
65 70 75 80

Ala Glu Trp Ile Gln Arg Met Met Glu Val Leu Arg Lys Arg Ser Ser  
85 90 95

Ser Thr Leu Pro Val Pro Val Phe Lys Arg Lys Ile Pro  
100 105

<210> 241  
<211> 109  
<212> PRT  
<213> Mus musculus

<400> 241

Met Arg Leu Ser Thr Ala Thr Leu Leu Leu Leu Leu Ala Ser Cys Leu  
1 5 10 15

Ser Pro Gly His Gly Ile Leu Glu Ala His Tyr Thr Asn Leu Lys Cys  
20 25 30

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Arg Cys Ser Gly Val Ile Ser Thr Val Val Gly Leu Asn Ile Ile Asp  
35 40 45

Arg Ile Gln Val Thr Pro Pro Gly Asn Gly Cys Pro Lys Thr Glu Val  
50 55 60

Val Ile Trp Thr Lys Met Lys Lys Val Ile Cys Val Asn Pro Arg Ala  
65 70 75 80

Lys Trp Leu Gln Arg Leu Leu Arg His Val Gln Ser Lys Ser Leu Ser  
85 90 95

Ser Thr Pro Gln Ala Pro Val Ser Lys Arg Arg Ala Ala  
100 105

<210> 242  
<211> 97  
<212> PRT  
<213> Homo sapiens

<400> 242

Met Lys Val Ser Ala Ala Leu Leu Trp Leu Leu Leu Ile Ala Ala Ala  
1 5 10 15

Phe Ser Pro Gln Gly Leu Ala Gly Pro Ala Ser Val Pro Thr Thr Cys  
20 25 30

Cys Phe Asn Leu Ala Asn Arg Lys Ile Pro Leu Gln Arg Leu Glu Ser  
35 40 45

Tyr Arg Arg Ile Thr Ser Gly Lys Cys Pro Gln Lys Ala Val Ile Phe  
50 55 60

Lys Thr Lys Leu Ala Lys Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp  
65 70 75 80

Val Gln Asp Ser Met Lys Tyr Leu Asp Gln Lys Ser Pro Thr Pro Lys  
85 90 95

Pro

<210> 243  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 243

Met Ala Gly Leu Met Thr Ile Val Thr Ser Leu Leu Phe Leu Gly Val  
1 5 10 15

Cys Ala His His Ile Ile Pro Thr Gly Ser Val Val Ile Pro Ser Pro  
20 25 30

Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn Arg Val Val  
35 40 45

Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala Gly Val Ile  
50 55 60

Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro Lys Gln Glu  
65 70 75 80

Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln Lys Lys Ala  
85 90 95

Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val Gln Arg Tyr  
100 105 110

Pro Gly Asn Gln Thr Thr Cys  
115

<210> 244  
<211> 94  
<212> PRT  
<213> Homo sapiens

<400> 244

Met Met Gly Leu Ser Leu Ala Ser Ala Val Leu Leu Ala Ser Leu Leu  
1 5 10 15

Ser Leu His Leu Gly Thr Ala Thr Arg Gly Ser Asp Ile Ser Lys Thr  
20 25 30

Cys Cys Phe Gln Tyr Ser His Lys Pro Leu Pro Trp Thr Trp Val Arg  
35 40 45

Ser Tyr Glu Phe Thr Ser Asn Ser Cys Ser Gln Arg Ala Val Ile Phe  
50 55 60

Thr Thr Lys Arg Gly Lys Lys Val Cys Thr His Pro Arg Lys Lys Trp  
65 70 75 80

Val Gln Lys Tyr Ile Ser Leu Leu Lys Thr Pro Lys Gln Leu  
85 90

<210> 245  
 <211> 97  
 <212> PRT  
 <213> Mus musculus

<400> 245

Met Gln Ser Ser Thr Ala Leu Leu Phe Leu Leu Leu Thr Val Thr Ser  
 1 5 10 15

Phe Thr Ser Gln Val Leu Ala His Pro Gly Ser Ile Pro Thr Ser Cys  
 20 25 30

Cys Phe Ile Met Thr Ser Lys Lys Ile Pro Asn Thr Leu Leu Lys Ser  
 35 40 45

Tyr Lys Arg Ile Thr Asn Asn Arg Cys Thr Leu Lys Ala Ile Val Phe  
 50 55 60

Lys Thr Arg Leu Gly Lys Glu Ile Cys Ala Asp Pro Lys Lys Lys Trp  
 65 70 75 80

Val Gln Asp Ala Thr Lys His Leu Asp Gln Lys Leu Gln Thr Pro Lys  
 85 90 95

Pro

<210> 246  
 <211> 119  
 <212> PRT  
 <213> Mus musculus

<400> 246

Met Ala Gly Ser Ala Thr Ile Val Ala Gly Leu Leu Leu Leu Val Ala  
 1 5 10 15

Cys Ala Cys Cys Ile Phe Pro Ile Asp Ser Val Thr Ile Pro Ser Ser  
 20 25 30

Cys Cys Thr Ser Phe Ile Ser Lys Lys Ile Pro Glu Asn Arg Val Val  
 35 40 45

Ser Tyr Gln Leu Ala Asn Gly Ser Ile Cys Pro Lys Ala Gly Val Ile  
 50 55 60

Phe Ile Thr Lys Lys Gly His Lys Ile Cys Thr Asp Pro Lys Leu Leu  
 65 70 75 80

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Trp Val Gln Arg His Ile Gln Lys Leu Asp Ala Lys Lys Asn Gln Pro  
85 90 95

Ser Lys Gly Ala Lys Ala Val Arg Thr Lys Phe Ala Val Gln Arg Arg  
100 105 110

Arg Gly Asn Ser Thr Glu Val  
115

<210> 247  
<211> 553  
<212> PRT  
<213> Homo sapiens

<400> 247

Met Thr Ala Pro Gly Ala Ala Gly Arg Cys Pro Pro Thr Thr Trp Leu  
1 5 10 15

Gly Ser Leu Leu Leu Leu Val Cys Leu Leu Ala Ser Arg Ser Ile Thr  
20 25 30

Glu Glu Val Ser Glu Tyr Cys Ser His Met Ile Gly Ser Gly His Leu  
35 40 45

Gln Ser Leu Gln Arg Leu Ile Asp Ser Gln Met Glu Thr Ser Cys Gln  
50 55 60

Ile Thr Phe Glu Phe Val Asp Gln Glu Gln Leu Lys Asp Pro Val Cys  
65 70 75 80

Tyr Leu Lys Lys Ala Phe Leu Leu Val Gln Asp Ile Met Glu Asp Thr  
85 90 95

Met Arg Phe Arg Asp Asn Thr Pro Asn Ala Ile Ala Ile Val Gln Leu  
100 105 110

Gln Glu Leu Ser Leu Arg Leu Lys Ser Cys Phe Thr Lys Asp Tyr Glu  
115 120 125

Glu His Asp Lys Ala Cys Val Arg Thr Phe Tyr Glu Thr Pro Leu Gln  
130 135 140

Leu Leu Glu Lys Val Lys Asn Val Phe Asn Glu Thr Lys Asn Leu Leu  
145 150 155 160

Asp Lys Asp Trp Asn Ile Phe Ser Lys Asn Cys Asn Asn Ser Phe Ala  
165 170 175

Glu	Cys	Ser	Ser	Gln	Asp	Val	Val	Thr	Lys	Pro	Asp	Cys	Asn	Cys	Leu
			180					185					190		
Tyr	Pro	Lys	Ala	Ile	Pro	Ser	Ser	Asp	Pro	Ala	Ser	Val	Ser	Pro	His
		195					200					205			
Gln	Pro	Leu	Ala	Pro	Ser	Met	Ala	Pro	Val	Ala	Gly	Leu	Thr	Trp	Glu
	210					215					220				
Asp	Ser	Glu	Gly	Thr	Glu	Gly	Ser	Ser	Leu	Leu	Pro	Gly	Glu	Gln	Pro
225					230					235					240
Leu	His	Thr	Val	Asp	Pro	Gly	Ser	Ala	Lys	Gln	Arg	Pro	Pro	Arg	Ser
				245					250					255	
Thr	Cys	Gln	Ser	Phe	Glu	Pro	Pro	Glu	Thr	Pro	Val	Val	Lys	Asp	Ser
			260					265					270		
Thr	Ile	Gly	Gly	Ser	Pro	Gln	Pro	Arg	Pro	Ser	Val	Gly	Ala	Phe	Asn
		275					280					285			
Pro	Gly	Met	Glu	Asp	Ile	Leu	Asp	Ser	Ala	Met	Gly	Thr	Asn	Trp	Val
	290					295					300				
Pro	Glu	Glu	Ala	Ser	Gly	Glu	Ala	Ser	Glu	Ile	Pro	Val	Pro	Gln	Gly
305					310					315					320
Thr	Glu	Leu	Ser	Pro	Ser	Arg	Pro	Gly	Gly	Gly	Ser	Met	Gln	Thr	Glu
				325					330					335	
Pro	Ala	Arg	Pro	Ser	Asn	Phe	Leu	Ser	Ala	Ser	Ser	Pro	Leu	Pro	Ala
			340					345					350		
Ser	Ala	Lys	Gly	Gln	Gln	Pro	Ala	Asp	Val	Thr	Gly	Thr	Ala	Leu	Pro
		355					360					365			
Arg	Val	Gly	Pro	Val	Arg	Pro	Thr	Gly	Gln	Asp	Trp	Asn	His	Thr	Pro
	370					375					380				
Gln	Lys	Thr	Asp	His	Pro	Ser	Ala	Leu	Leu	Arg	Asp	Pro	Pro	Glu	Pro
385					390					395					400
Gly	Ser	Pro	Arg	Ile	Ser	Ser	Pro	Arg	Pro	Gln	Gly	Leu	Ser	Asn	Pro
				405					410					415	
Ser	Thr	Leu	Ser	Ala	Gln	Pro	Gln	Leu	Ser	Arg	Ser	His	Ser	Ser	Gly
			420					425					430		



Ser Val Leu Pro Leu Gly Glu Leu Glu Gly Arg Arg Ser Thr Arg Asp  
435 440 445

Arg Arg Ser Pro Ala Glu Pro Glu Gly Gly Pro Ala Ser Glu Gly Ala  
450 455 460

Ala Arg Pro Leu Pro Arg Phe Asn Ser Val Pro Leu Thr Asp Thr His  
465 470 475 480

Glu Arg Gln Ser Glu Gly Ser Ser Ser Pro Gln Leu Gln Glu Ser Val  
485 490 495

Phe His Leu Leu Val Pro Ser Val Ile Leu Val Leu Leu Ala Val Gly  
500 505 510

Gly Leu Leu Phe Tyr Arg Trp Arg Arg Arg Ser His Gln Glu Pro Gln  
515 520 525

Arg Ala Asp Ser Pro Leu Glu Gln Pro Glu Gly Ser Pro Leu Thr Gln  
530 535 540

Asp Asp Arg Gln Val Glu Leu Pro Val  
545 550

<210> 248  
<211> 552  
<212> PRT  
<213> Mus musculus

<400> 248

Met Thr Ala Arg Gly Ala Ala Gly Arg Cys Pro Ser Ser Thr Trp Leu  
1 5 10 15

Gly Ser Arg Leu Leu Leu Val Cys Leu Leu Met Ser Arg Ser Ile Ala  
20 25 30

Lys Glu Val Ser Glu His Cys Ser His Met Ile Gly Asn Gly His Leu  
35 40 45

Lys Val Leu Gln Gln Leu Ile Asp Ser Gln Met Glu Thr Ser Cys Gln  
50 55 60

Ile Ala Phe Glu Phe Val Asp Gln Glu Gln Leu Asp Asp Pro Val Cys  
65 70 75 80

Tyr Leu Lys Lys Ala Phe Phe Leu Val Gln Asp Ile Ile Asp Glu Thr  
85 90 95

Met	Arg	Phe	Lys	Asp	Asn	Thr	Pro	Asn	Ala	Asn	Ala	Thr	Glu	Arg	Leu
			100					105					110		
Gln	Glu	Leu	Ser	Asn	Asn	Leu	Asn	Ser	Cys	Phe	Thr	Lys	Asp	Tyr	Glu
		115					120					125			
Glu	Gln	Asn	Lys	Ala	Cys	Val	Arg	Thr	Phe	His	Glu	Thr	Pro	Leu	Gln
	130					135					140				
Leu	Leu	Glu	Lys	Ile	Lys	Asn	Phe	Phe	Asn	Glu	Thr	Lys	Asn	Leu	Leu
145					150					155					160
Glu	Lys	Asp	Trp	Asn	Ile	Phe	Thr	Lys	Asn	Cys	Asn	Asn	Ser	Phe	Ala
				165					170					175	
Lys	Cys	Ser	Ser	Arg	Asp	Val	Val	Thr	Lys	Pro	Asp	Cys	Asn	Cys	Leu
			180					185					190		
Tyr	Pro	Lys	Ala	Thr	Pro	Ser	Ser	Asp	Pro	Ala	Ser	Ala	Ser	Pro	His
		195					200					205			
Gln	Pro	Pro	Ala	Pro	Ser	Met	Ala	Pro	Leu	Ala	Gly	Leu	Ala	Trp	Asp
	210					215					220				
Asp	Ser	Gln	Arg	Thr	Glu	Gly	Ser	Ser	Leu	Leu	Pro	Ser	Glu	Leu	Pro
225					230					235					240
Leu	Arg	Ile	Glu	Asp	Pro	Gly	Ser	Ala	Lys	Gln	Arg	Pro	Pro	Arg	Ser
				245					250					255	
Thr	Cys	Gln	Thr	Leu	Glu	Ser	Thr	Glu	Gln	Pro	Asn	His	Gly	Asp	Arg
			260					265					270		
Leu	Thr	Glu	Asp	Ser	Gln	Pro	His	Pro	Ser	Ala	Gly	Gly	Pro	Val	Pro
		275					280					285			
Gly	Val	Glu	Asp	Ile	Leu	Glu	Ser	Ser	Leu	Gly	Thr	Asn	Trp	Val	Leu
	290					295					300				
Glu	Glu	Ala	Ser	Gly	Glu	Ala	Ser	Glu	Gly	Phe	Leu	Thr	Gln	Glu	Ala
305					310					315					320
Lys	Phe	Ser	Pro	Ser	Thr	Pro	Val	Gly	Gly	Ser	Ile	Gln	Ala	Glu	Thr
				325					330					335	
Asp	Arg	Pro	Arg	Ala	Leu	Ser	Ala	Ser	Pro	Phe	Pro	Lys	Ser	Thr	Glu

340					345					350					
Asp	Gln	Lys	Pro	Val	Asp	Ile	Thr	Asp	Arg	Pro	Leu	Thr	Glu	Val	Asn
		355					360					365			
Pro	Met	Arg	Pro	Ile	Gly	Gln	Thr	Gln	Asn	Asn	Thr	Pro	Glu	Lys	Thr
	370					375					380				
Asp	Gly	Thr	Ser	Thr	Leu	Arg	Glu	Asp	His	Gln	Glu	Pro	Gly	Ser	Pro
385					390					395					400
His	Ile	Ala	Thr	Pro	Asn	Pro	Gln	Arg	Val	Ser	Asn	Ser	Ala	Thr	Pro
				405					410					415	
Val	Ala	Gln	Leu	Leu	Leu	Pro	Lys	Ser	His	Ser	Trp	Gly	Ile	Val	Leu
			420					425					430		
Pro	Leu	Gly	Glu	Leu	Glu	Gly	Lys	Arg	Ser	Thr	Arg	Asp	Arg	Arg	Ser
		435					440					445			
Pro	Ala	Glu	Leu	Glu	Gly	Gly	Ser	Ala	Ser	Glu	Gly	Ala	Ala	Arg	Pro
	450					455					460				
Val	Ala	Arg	Phe	Asn	Ser	Ile	Pro	Leu	Thr	Asp	Thr	Gly	His	Val	Glu
465					470					475					480
Gln	His	Glu	Gly	Ser	Ser	Asp	Pro	Gln	Ile	Pro	Glu	Ser	Val	Phe	His
				485					490					495	
Leu	Leu	Val	Pro	Gly	Ile	Ile	Leu	Val	Leu	Leu	Thr	Val	Gly	Gly	Leu
			500					505					510		
Leu	Phe	Tyr	Lys	Trp	Lys	Trp	Arg	Ser	His	Arg	Asp	Pro	Gln	Thr	Leu
		515					520					525			
Asp	Ser	Ser	Val	Gly	Arg	Pro	Glu	Asp	Ser	Ser	Leu	Thr	Gln	Asp	Glu
	530					535					540				
Asp	Arg	Gln	Val	Glu	Leu	Pro	Val								
545					550										

<210> 249  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 249

Met Lys Ala Leu Cys Leu Leu Leu Leu Pro Val Leu Gly Leu Leu Val  
1 5 10 15

Ser Ser Lys Thr Leu Cys Ser Met Glu Glu Ala Ile Asn Glu Arg Ile  
20 25 30

Gln Glu Val Ala Gly Ser Leu Ile Phe Arg Ala Ile Ser Ser Ile Gly  
35 40 45

Leu Glu Cys Gln Ser Val Thr Ser Arg Gly Asp Leu Ala Thr Cys Pro  
50 55 60

Arg Gly Phe Ala Val Thr Gly Cys Thr Cys Gly Ser Ala Cys Gly Ser  
65 70 75 80

Trp Asp Val Arg Ala Glu Thr Thr Cys His Cys Gln Cys Ala Gly Met  
85 90 95

Asp Trp Thr Gly Ala Arg Cys Cys Arg Val Gln Pro  
100 105

<210> 250  
<211> 114  
<212> PRT  
<213> Mus musculus

<400> 250

Met Lys Asn Leu Ser Phe Pro Leu Leu Phe Leu Phe Phe Leu Val Pro  
1 5 10 15

Glu Leu Leu Gly Ser Ser Met Pro Leu Cys Pro Ile Asp Glu Ala Ile  
20 25 30

Asp Lys Lys Ile Lys Gln Asp Phe Asn Ser Leu Phe Pro Asn Ala Ile  
35 40 45

Lys Asn Ile Gly Leu Asn Cys Trp Thr Val Ser Ser Arg Gly Lys Leu  
50 55 60

Ala Ser Cys Pro Glu Gly Thr Ala Val Leu Ser Cys Ser Cys Gly Ser  
65 70 75 80

Ala Cys Gly Ser Trp Asp Ile Arg Glu Glu Lys Val Cys His Cys Gln  
85 90 95

Cys Ala Arg Ile Asp Trp Thr Ala Ala Arg Cys Cys Lys Leu Gln Val  
100 105 110

Ala Ser

<210> 251  
<211> 174  
<212> PRT  
<213> Homo sapiens

<400> 251

Gln Asp Gln Gly Gly Leu Val Thr Glu Thr Ala Asp Pro Gly Ala Gln  
1 5 10 15

Ala Gln Gln Gly Leu Gly Phe Gln Lys Leu Pro Glu Glu Glu Pro Glu  
20 25 30

Thr Asp Leu Ser Pro Gly Leu Pro Ala Ala His Leu Ile Gly Ala Pro  
35 40 45

Leu Lys Gly Gln Gly Leu Gly Trp Glu Thr Thr Lys Glu Gln Ala Phe  
50 55 60

Leu Thr Ser Gly Thr Gln Phe Ser Asp Ala Glu Gly Leu Ala Leu Pro  
65 70 75 80

Gln Asp Gly Leu Tyr Tyr Leu Tyr Cys Leu Val Gly Tyr Arg Gly Arg  
85 90 95

Ala Pro Pro Gly Gly Gly Asp Pro Gln Gly Arg Ser Val Thr Leu Arg  
100 105 110

Ser Ser Leu Tyr Arg Ala Gly Gly Ala Tyr Gly Pro Gly Thr Pro Glu  
115 120 125

Leu Leu Leu Glu Gly Ala Glu Thr Val Thr Pro Val Leu Asp Pro Ala  
130 135 140

Arg Arg Gln Gly Tyr Gly Pro Leu Trp Tyr Thr Ser Val Gly Phe Gly  
145 150 155 160

Gly Leu Val Gln Leu Arg Arg Gly Glu Arg Val Tyr Val Asn  
165 170

<210> 252  
<211> 258  
<212> PRT  
<213> Mus musculus

<400> 252

Gln Asp Gln Gly Arg Arg Val Glu Lys Ile Ile Gly Ser Gly Ala Gln

1	5	10	15
Ala	Gln	Lys	Arg
	20		
Leu	Asp	Asp	Ser
			25
Pro	Ser	Cys	Ile
			30
Leu	Pro	Ser	
Pro	Ser	Ser	Leu
	35		
Ser	Glu	Thr	Pro
			40
Asp	Pro	Arg	Leu
			45
His	Pro	Gln	Arg
Ser	Asn	Ala	Ser
	50		
Arg	Asn	Leu	Ala
		55	
Ser	Thr	Ser	Gln
			60
Gly	Pro	Val	Ala
Gln	Ser	Ser	Arg
	65		
Glu	Ala	Ser	Ala
	70		
Trp	Met	Thr	Ile
		75	
Leu	Ser	Pro	Ala
			80
Ala	Asp	Ser	Thr
	85		
Pro	Asp	Pro	Gly
			90
Val	Gln	Gln	Leu
Pro	Lys	Gly	Glu
		95	
Pro	Glu	Thr	Asp
			100
Leu	Asn	Pro	Glu
			105
Leu	Pro	Ala	Ala
His	Leu	Ile	Gly
			110
Ala	Trp	Met	Ser
	115		
Gly	Gln	Gly	Leu
			120
Ser	Trp	Glu	Ala
			125
Gln	Glu	Glu	
Ala	Phe	Leu	Arg
	130		
Ser	Gly	Ala	Gln
		135	
Phe	Ser	Pro	Thr
			140
His	Gly	Leu	Ala
Leu	Pro	Gln	Asp
	145		
Gly	Val	Tyr	Tyr
	150		
Leu	Tyr	Cys	His
		155	
Val	Gly	Tyr	Arg
			160
Gly	Arg	Thr	Leu
Pro	Pro	Ala	Gly
	165		
Arg	Ser	Arg	Ala
		170	
Arg	Ser	Leu	Thr
			175
Arg	Ser	Ala	Leu
	180		
Tyr	Arg	Ala	Gly
			185
Ala	Tyr	Gly	Arg
			190
Gly	Ser	Pro	
Glu	Leu	Leu	Leu
	195		
Glu	Gly	Ala	Glu
			200
Thr	Val	Thr	Pro
			205
Val	Val	Asp	Pro
Ile	Gly	Tyr	Gly
	210		
Ser	Leu	Trp	Tyr
		215	
Thr	Ser	Val	Gly
			220
Phe	Gly	Gly	Leu
Ala	Gln	Leu	Arg
	225		
Ser	Gly	Glu	Arg
	230		
Val	Tyr	Val	Asn
		235	
Ile	Ser	His	Pro
			240
Asp	Met	Val	Asp
	245		
Tyr	Arg	Arg	Gly
Lys	Thr	Phe	Phe
	250		
Gly	Ala	Val	Met
		255	

Val Gly

<210> 253  
 <211> 128  
 <212> PRT  
 <213> RNA-phage PP7

<400> 253

Met Ser Lys Thr Ile Val Leu Ser Val Gly Glu Ala Thr Arg Thr Leu  
 1 5 10 15

Thr Glu Ile Gln Ser Thr Ala Asp Arg Gln Ile Phe Glu Glu Lys Val  
 20 25 30

Gly Pro Leu Val Gly Arg Leu Arg Leu Thr Ala Ser Leu Arg Gln Asn  
 35 40 45

Gly Ala Lys Thr Ala Tyr Arg Val Asn Leu Lys Leu Asp Gln Ala Asp  
 50 55 60

Val Val Asp Cys Ser Thr Ser Val Cys Gly Glu Leu Pro Lys Val Arg  
 65 70 75 80

Tyr Thr Gln Val Trp Ser His Asp Val Thr Ile Val Ala Asn Ser Thr  
 85 90 95

Glu Ala Ser Arg Lys Ser Leu Tyr Asp Leu Thr Lys Ser Leu Val Ala  
 100 105 110

Thr Ser Gln Val Glu Asp Leu Val Val Asn Leu Val Pro Leu Gly Arg  
 115 120 125

<210> 254  
 <211> 330  
 <212> PRT  
 <213> RNA-phage SP A1 protein

<400> 254

Ala Lys Leu Asn Gln Val Thr Leu Ser Lys Ile Gly Lys Asn Gly Asp  
 1 5 10 15

Gln Thr Leu Thr Leu Thr Pro Arg Gly Val Asn Pro Thr Asn Gly Val  
 20 25 30

Ala Ser Leu Ser Glu Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val  
 35 40 45

Thr	Val	Ser	Val	Ala	Gln	Pro	Ser	Arg	Asn	Arg	Lys	Asn	Phe	Lys	Val
	50					55					60				
Gln	Ile	Lys	Leu	Gln	Asn	Pro	Thr	Ala	Cys	Thr	Arg	Asp	Ala	Cys	Asp
65					70					75					80
Pro	Ser	Val	Thr	Arg	Ser	Ala	Phe	Ala	Asp	Val	Thr	Leu	Ser	Phe	Thr
				85					90					95	
Ser	Tyr	Ser	Thr	Asp	Glu	Glu	Arg	Ala	Leu	Ile	Arg	Thr	Glu	Leu	Ala
			100					105					110		
Ala	Leu	Leu	Ala	Asp	Pro	Leu	Ile	Val	Asp	Ala	Ile	Asp	Asn	Leu	Asn
		115					120					125			
Pro	Ala	Tyr	Trp	Ala	Ala	Leu	Leu	Val	Ala	Ser	Ser	Gly	Gly	Gly	Asp
	130					135					140				
Asn	Pro	Ser	Asp	Pro	Asp	Val	Pro	Val	Val	Pro	Asp	Val	Lys	Pro	Pro
145					150					155					160
Asp	Gly	Thr	Gly	Arg	Tyr	Lys	Cys	Pro	Phe	Ala	Cys	Tyr	Arg	Leu	Gly
				165					170					175	
Ser	Ile	Tyr	Glu	Val	Gly	Lys	Glu	Gly	Ser	Pro	Asp	Ile	Tyr	Glu	Arg
			180					185					190		
Gly	Asp	Glu	Val	Ser	Val	Thr	Phe	Asp	Tyr	Ala	Leu	Glu	Asp	Phe	Leu
		195					200					205			
Gly	Asn	Thr	Asn	Trp	Arg	Asn	Trp	Asp	Gln	Arg	Leu	Ser	Asp	Tyr	Asp
	210					215					220				
Ile	Ala	Asn	Arg	Arg	Arg	Cys	Arg	Gly	Asn	Gly	Tyr	Ile	Asp	Leu	Asp
225					230					235					240
Ala	Thr	Ala	Met	Gln	Ser	Asp	Asp	Phe	Val	Leu	Ser	Gly	Arg	Tyr	Gly
				245					250					255	
Val	Arg	Lys	Val	Lys	Phe	Pro	Gly	Ala	Phe	Gly	Ser	Ile	Lys	Tyr	Leu
			260					265					270		
Leu	Asn	Ile	Gln	Gly	Asp	Ala	Trp	Leu	Asp	Leu	Ser	Glu	Val	Thr	Ala
		275					280					285			
Tyr	Arg	Ser	Tyr	Gly	Met	Val	Ile	Gly	Phe	Trp	Thr	Asp	Ser	Lys	Ser
	290					295					300				



Pro Gln Leu Pro Thr Asp Phe Thr Gln Phe Asn Ser Ala Asn Cys Pro  
305 310 315 320

Val Gln Thr Val Ile Ile Ile Pro Ser Leu  
325 330

<210> 255  
<211> 132  
<212> PRT  
<213> QB 240

<400> 255

Ala Lys Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Arg Asp Gly Lys  
1 5 10 15

Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val  
20 25 30

Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val  
35 40 45

Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val  
50 55 60

Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys  
65 70 75 80

Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe  
85 90 95

Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu  
100 105 110

Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu  
115 120 125

Asn Pro Ala Tyr  
130

<210> 256  
<211> 132  
<212> PRT  
<213> Qb 243

<400> 256

Ala Lys Leu Glu Thr Val Thr Leu Gly Lys Ile Gly Lys Asp Gly Lys  
1 5 10 15

Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val  
20 25 30

Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val  
35 40 45

Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val  
50 55 60

Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys  
65 70 75 80

Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe  
85 90 95

Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu  
100 105 110

Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu  
115 120 125

Asn Pro Ala Tyr  
130

<210> 257  
<211> 132  
<212> PRT  
<213> Qb 250

<400> 257

Ala Arg Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Arg Asp Gly Lys  
1 5 10 15

Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val  
20 25 30

Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val  
35 40 45

Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val  
50 55 60

Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys  
65 70 75 80

Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe  
85 90 95

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Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu  
100 105 110

Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu  
115 120 125

Asn Pro Ala Tyr  
130

<210> 258  
<211> 132  
<212> PRT  
<213> Qb 259

<400> 258

Ala Arg Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Lys Asp Gly Arg  
1 5 10 15

Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val  
20 25 30

Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val  
35 40 45

Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val  
50 55 60

Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys  
65 70 75 80

Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe  
85 90 95

Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu  
100 105 110

Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu  
115 120 125

Asn Pro Ala Tyr  
130

<210> 259  
<211> 132  
<212> PRT  
<213> Qb 251

<400> 259

-144-

Ala Lys Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Lys Asp Gly Arg  
1 5 10 15

Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val  
20 25 30

Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val  
35 40 45

Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val  
50 55 60

Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys  
65 70 75 80

Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe  
85 90 95

Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu  
100 105 110

Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu  
115 120 125

Asn Pro Ala Tyr  
130

<210> 260  
<211> 20  
<212> DNA  
<213> PH19

<400> 260  
taagtcctct gccacgtacc

20

<210> 261  
<211> 20  
<212> DNA  
<213> PH20

<400> 261  
tggaaccac gctcacttcc

20

<210> 262  
<211> 30  
<212> DNA  
<213> PH21

<400> 262  
cgggatccgg gatgaagaac ctttcatttc

30

<210> 263  
<211> 31  
<212> DNA  
<213> PH22

<400> 263  
gcctctagag aggaagcgac ctgcagctta c 31

<210> 264  
<211> 46  
<212> DNA  
<213> PH29

<400> 264  
ctagcgggag ggggtggatg tggggacgac tacaaggatg acgaca 46

<210> 265  
<211> 46  
<212> DNA  
<213> PH30

<400> 265  
agcttgctgt catccttgta gtcgtcccca catccacccc ctcccg 46

<210> 266  
<211> 45  
<212> DNA  
<213> PH31

<400> 266  
agcttactca cacatgcccc ccgtgcccag cacctgaagc cgagg 45

<210> 267  
<211> 38  
<212> DNA  
<213> PH32

<400> 267  
cggcttcagg tgctgggcac ggtgggcatg tgtgagta 38

<210> 268  
<211> 37  
<212> DNA  
<213> PH35

<400> 268  
ctagcgggag ggggtggatg tgggatcgaa ggtcgca 37

<210> 269  
<211> 37  
<212> DNA  
<213> PH36

<400> 269  
agcttgcgac cttcgatccc acatccacccc cctcccg 37

<210> 270  
<211> 43  
<212> DNA  
<213> PH37

<400> 270  
cgggatccag cagctgggct cgaggtgcta gctttgttta aac 43

<210> 271  
<211> 55  
<212> DNA  
<213> PH38

<400> 271  
gatcgtttta acaaacaaag ctagcacctc gagcccagct gctggatccc ggtac 55

<210> 272  
<211> 37  
<212> DNA  
<213> PH39

<400> 272  
ctagcgggag ggggtggatg tggggacgat gacgaca 37

<210> 273  
<211> 37  
<212> DNA  
<213> PH40

<400> 273  
agcttgctgt catcgtcccc acatccaccc cctccccg 37

<210> 274  
<211> 30  
<212> DNA  
<213> PH41

<400> 274  
catggagaca gacacactcc tgctatgggt 30

<210> 275  
<211> 39  
<212> DNA  
<213> PH42

<400> 275  
gcagtaccca tagcaggagt gtgtctgtct ccatgggtac 39

<210> 276  
<211> 37  
<212> DNA  
<213> PH43

<400> 276  
actgctgctc tgggttccag gttccactgg tgacgcg 37

<210> 277  
<211> 36  
<212> DNA  
<213> PH44

<400> 277  
gatccgcgtc accagtggaa cctggaaccc agagca 36

<210> 278  
<211> 40  
<212> DNA  
<213> SU7

<400> 278  
agcttgcgga tccaggatat cggctcgagg ttctagagtg 40

<210> 279  
<211> 40  
<212> DNA  
<213> SU8

<400> 279  
ggcccactct agaacctcga gccgatatcc tggatccgca 40

<210> 280  
<211> 107  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Resistin-C-Xa construct

<400> 280

Ser Ser Met Pro Leu Cys Pro Ile Asp Glu Ala Ile Asp Lys Lys Ile  
1 5 10 15

Lys Gln Asp Phe Asn Ser Leu Phe Pro Asn Ala Ile Lys Asn Ile Gly  
20 25 30

Leu Asn Cys Trp Thr Val Ser Ser Arg Gly Lys Leu Ala Ser Cys Pro  
35 40 45

Glu Gly Thr Ala Val Leu Ser Cys Ser Cys Gly Ser Ala Cys Gly Ser  
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Trp Asp Ile Arg Glu Glu Lys Val Cys His Cys Gln Cys Ala Arg Ile  
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Asp Trp Thr Ala Ala Arg Cys Cys Lys Leu Gln Val Ala Ser Ser Leu  
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Ala Gly Gly Gly Gly Cys Gly Ile Glu Gly Arg

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<400> 281

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Lys Gln Asp Phe Asn Ser Leu Phe Pro Asn Ala Ile Lys Asn Ile Gly  
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Leu Asn Cys Trp Thr Val Ser Ser Arg Gly Lys Leu Ala Ser Cys Pro  
35 40 45

Glu Gly Thr Ala Val Leu Ser Cys Ser Cys Gly Ser Ala Cys Gly Ser  
50 55 60

Trp Asp Ile Arg Glu Glu Lys Val Cys His Cys Gln Cys Ala Arg Ile  
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Asp Trp Thr Ala Ala Arg Cys Cys Lys Leu Gln Val Ala Ser Ser Leu  
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Ala Gly Gly Gly Gly Cys Gly Asp Asp Asp Asp  
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<400> 282

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Lys Gln Asp Phe Asn Ser Leu Phe Pro Asn Ala Ile Lys Asn Ile Gly  
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Leu Asn Cys Trp Thr Val Ser Ser Arg Gly Lys Leu Ala Ser Cys Pro  
35 40 45



Glu Gly Thr Ala Val Leu Ser Cys Ser Cys Gly Ser Ala Cys Gly Ser  
50 55 60

Trp Asp Ile Arg Glu Glu Lys Val Cys His Cys Gln Cys Ala Arg Ile  
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Asp Trp Thr Ala Ala Arg Cys Cys Lys Leu Gln Val Ala Ser Ser Leu  
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Ala Gly Gly Gly Gly Cys Gly  
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10285

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33

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Phe Pro Lys Leu Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln  
180 185 190

Ile Asp Lys Tyr Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln  
195 200 205



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Gly Trp Gln Ala Thr Phe Gly Gly Gly Asp His Pro Pro Lys Ala Ser  
210 215 220

Met Thr Gly Gly Gln Gln Met Gly Arg Asp Leu Tyr Asp Asp Asp Asp  
225 230 235 240

Lys Leu Ala Cys Gly Gly Gln Asp Gln Gly Arg Arg Val Glu Lys Ile  
245 250 255

Ile Gly Ser Gly Ala Gln Ala Gln Lys Arg Leu Asp Asp Ser Lys Pro  
260 265 270

Ser Cys Ile Leu Pro Ser Pro Ser Ser Leu Ser Glu Thr Pro Asp Pro  
275 280 285

Arg Leu His Pro Gln Arg Ser Asn Ala Ser Arg Asn Leu Ala Ser Thr  
290 295 300

Ser Gln Gly Pro Val Ala Gln Ser Ser Arg Glu Ala Ser Ala Trp Met  
305 310 315 320

Thr Ile Leu Ser Pro Ala Ala Asp Ser Thr Pro Asp Pro Gly Val Gln  
325 330 335

Gln Leu Pro Lys Gly Glu Pro Glu Thr Asp Leu Asn Pro Glu Leu Pro  
340 345 350

Ala Ala His Leu Ile Gly Ala Trp Met Ser Gly Gln Gly Leu Ser Trp  
355 360 365

Glu Ala Ser Gln Glu Glu Ala Phe Leu Arg Ser Gly Ala Gln Phe Ser  
370 375 380

Pro Thr His Gly Leu Ala Leu Pro Gln Asp Gly Val Tyr Tyr Leu Tyr  
385 390 395 400

Cys His Val Gly Tyr Arg Gly Arg Thr Pro Pro Ala Gly Arg Ser Arg  
405 410 415

Ala Arg Ser Leu Thr Leu Arg Ser Ala Leu Tyr Arg Ala Gly Gly Ala  
420 425 430

Tyr Gly Arg Gly Ser Pro Glu Leu Leu Leu Glu Gly Ala Glu Thr Val  
435 440 445

Thr Pro Val Val Asp Pro Ile Gly Tyr Gly Ser Leu Trp Tyr Thr Ser  
450 455 460

Val Gly Phe Gly Gly Leu Ala Gln Leu Arg Ser Gly Glu Arg Val Tyr  
465 470 475 480

Val Asn Ile Ser His Pro Asp Met Val Asp Tyr Arg Arg Gly Lys Thr  
485 490 495

Phe Phe Gly Ala Val Met Val Gly  
500

<210> 290

<211> 427

<212> PRT

<213> Artificial Sequence

<220>

<223> GST-EK-C-LT\_126-306 fusion protein

<400> 290

Ala Pro Leu Val Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly  
1 5 10 15

Leu Val Gln Pro Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr  
20 25 30

Glu Glu His Leu Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys  
35 40 45

Lys Phe Glu Leu Gly Leu Glu Phe Pro Asn Leu Pro Tyr Tyr Ile Asp  
50 55 60

Gly Asp Val Lys Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala  
65 70 75 80

Asp Lys His Asn Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile  
85 90 95

Ser Met Leu Glu Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg  
100 105 110

Ile Ala Tyr Ser Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser  
115 120 125

Lys Leu Pro Glu Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys  
130 135 140

Thr Tyr Leu Asn Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr  
145 150 155 160

Asp	Ala	Leu	Asp	Val	Val	Leu	Tyr	Met	Asp	Pro	Met	Cys	Leu	Asp	Ala
				165					170					175	
Phe	Pro	Lys	Leu	Val	Cys	Phe	Lys	Lys	Arg	Ile	Glu	Ala	Ile	Pro	Gln
			180					185					190		
Ile	Asp	Lys	Tyr	Leu	Lys	Ser	Ser	Lys	Tyr	Ile	Ala	Trp	Pro	Leu	Gln
		195					200					205			
Gly	Trp	Gln	Ala	Thr	Phe	Gly	Gly	Gly	Asp	His	Pro	Pro	Lys	Ala	Ser
	210					215					220				
Met	Thr	Gly	Gly	Gln	Gln	Met	Gly	Arg	Asp	Leu	Tyr	Asp	Asp	Asp	Asp
225					230					235					240
Lys	Leu	Ala	Cys	Gly	Gly	Ser	Pro	Ala	Ala	Asp	Ser	Thr	Pro	Asp	Pro
				245					250					255	
Gly	Val	Gln	Gln	Leu	Pro	Lys	Gly	Glu	Pro	Glu	Thr	Asp	Leu	Asn	Pro
			260					265					270		
Glu	Leu	Pro	Ala	Ala	His	Leu	Ile	Gly	Ala	Trp	Met	Ser	Gly	Gln	Gly
		275					280					285			
Leu	Ser	Trp	Glu	Ala	Ser	Gln	Glu	Glu	Ala	Phe	Leu	Arg	Ser	Gly	Ala
	290					295					300				
Gln	Phe	Ser	Pro	Thr	His	Gly	Leu	Ala	Leu	Pro	Gln	Asp	Gly	Val	Tyr
305					310					315					320
Tyr	Leu	Tyr	Cys	His	Val	Gly	Tyr	Arg	Gly	Arg	Thr	Pro	Pro	Ala	Gly
				325					330					335	
Arg	Ser	Arg	Ala	Arg	Ser	Leu	Thr	Leu	Arg	Ser	Ala	Leu	Tyr	Arg	Ala
			340					345					350		
Gly	Gly	Ala	Tyr	Gly	Arg	Gly	Ser	Pro	Glu	Leu	Leu	Leu	Glu	Gly	Ala
		355					360					365			
Glu	Thr	Val	Thr	Pro	Val	Val	Asp	Pro	Ile	Gly	Tyr	Gly	Ser	Leu	Trp
	370					375					380				
Tyr	Thr	Ser	Val	Gly	Phe	Gly	Gly	Leu	Ala	Gln	Leu	Arg	Ser	Gly	Glu
385					390					395					400
Arg	Val	Tyr	Val	Asn	Ile	Ser	His	Pro	Asp	Met	Val	Asp	Tyr	Arg	Arg
				405					410					415	

Gly Lys Thr Phe Phe Gly Ala Val Met Val Gly  
420 425

<210> 291  
<211> 311  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> his-myc-EK-C-LT\_49-306 fusion protein

<400> 291

Ala Pro Leu Val His His His His His Gly Pro Leu Val Asp Val  
1 5 10 15

Ala Ser Asn Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Ala Ser Met  
20 25 30

Thr Gly Gly Gln Gln Met Gly Arg Asp Leu Tyr Asp Asp Asp Lys  
35 40 45

Leu Ala Cys Gly Gly Gln Asp Gln Gly Arg Arg Val Glu Lys Ile Ile  
50 55 60

Gly Ser Gly Ala Gln Ala Gln Lys Arg Leu Asp Asp Ser Lys Pro Ser  
65 70 75 80

Cys Ile Leu Pro Ser Pro Ser Ser Leu Ser Glu Thr Pro Asp Pro Arg  
85 90 95

Leu His Pro Gln Arg Ser Asn Ala Ser Arg Asn Leu Ala Ser Thr Ser  
100 105 110

Gln Gly Pro Val Ala Gln Ser Ser Arg Glu Ala Ser Ala Trp Met Thr  
115 120 125

Ile Leu Ser Pro Ala Ala Asp Ser Thr Pro Asp Pro Gly Val Gln Gln  
130 135 140

Leu Pro Lys Gly Glu Pro Glu Thr Asp Leu Asn Pro Glu Leu Pro Ala  
145 150 155 160

Ala His Leu Ile Gly Ala Trp Met Ser Gly Gln Gly Leu Ser Trp Glu  
165 170 175

Ala Ser Gln Glu Glu Ala Phe Leu Arg Ser Gly Ala Gln Phe Ser Pro  
180 185 190

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Thr His Gly Leu Ala Leu Pro Gln Asp Gly Val Tyr Tyr Leu Tyr Cys  
195 200 205

His Val Gly Tyr Arg Gly Arg Thr Pro Pro Ala Gly Arg Ser Arg Ala  
210 215 220

Arg Ser Leu Thr Leu Arg Ser Ala Leu Tyr Arg Ala Gly Gly Ala Tyr  
225 230 235 240

Gly Arg Gly Ser Pro Glu Leu Leu Leu Glu Gly Ala Glu Thr Val Thr  
245 250 255

Pro Val Val Asp Pro Ile Gly Tyr Gly Ser Leu Trp Tyr Thr Ser Val  
260 265 270

Gly Phe Gly Gly Leu Ala Gln Leu Arg Ser Gly Glu Arg Val Tyr Val  
275 280 285

Asn Ile Ser His Pro Asp Met Val Asp Tyr Arg Arg Gly Lys Thr Phe  
290 295 300

Phe Gly Ala Val Met Val Gly  
305 310

<210> 292

<211> 234

<212> PRT

<213> Artificial Sequence

<220>

<223> his-myc-EK-C-LT\_126-306 fusion protein

<400> 292

Ala Pro Leu Val His His His His His His Gly Pro Leu Val Asp Val  
1 5 10 15

Ala Ser Asn Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Ala Ser Met  
20 25 30

Thr Gly Gly Gln Gln Met Gly Arg Asp Leu Tyr Asp Asp Asp Asp Lys  
35 40 45

Leu Ala Cys Gly Gly Ser Pro Ala Ala Asp Ser Thr Pro Asp Pro Gly  
50 55 60

Val Gln Gln Leu Pro Lys Gly Glu Pro Glu Thr Asp Leu Asn Pro Glu  
65 70 75 80

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Leu Pro Ala Ala His Leu Ile Gly Ala Trp Met Ser Gly Gln Gly Leu  
85 90 95

Ser Trp Glu Ala Ser Gln Glu Glu Ala Phe Leu Arg Ser Gly Ala Gln  
100 105 110

Phe Ser Pro Thr His Gly Leu Ala Leu Pro Gln Asp Gly Val Tyr Tyr  
115 120 125

Leu Tyr Cys His Val Gly Tyr Arg Gly Arg Thr Pro Pro Ala Gly Arg  
130 135 140

Ser Arg Ala Arg Ser Leu Thr Leu Arg Ser Ala Leu Tyr Arg Ala Gly  
145 150 155 160

Gly Ala Tyr Gly Arg Gly Ser Pro Glu Leu Leu Leu Glu Gly Ala Glu  
165 170 175

Thr Val Thr Pro Val Val Asp Pro Ile Gly Tyr Gly Ser Leu Trp Tyr  
180 185 190

Thr Ser Val Gly Phe Gly Gly Leu Ala Gln Leu Arg Ser Gly Glu Arg  
195 200 205

Val Tyr Val Asn Ile Ser His Pro Asp Met Val Asp Tyr Arg Arg Gly  
210 215 220

Lys Thr Phe Phe Gly Ala Val Met Val Gly  
225 230

<210> 293  
<211> 43  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> MCS-1F primer

<400> 293  
tatggatccg gctagcgctc gagggtttaa acggcggccg cat

43

<210> 294  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> MCS-1R primer

<400> 294  
tcgaatgcgg ccgccgttta aaccctcgag cgctagccgg atcca

45

<210> 295  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Bamhis6-EK-Nhe-F oligonucleotide

<400> 295  
gatccacacc accaccacca ccacggttct ggtgacgacg atgacaaagc gctagccc 58

<210> 296  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Bamhis6-EK-Nhe-R oligonucleotide

<400> 296  
tcgagggcta gcgctttgtc atcgctgtca ccagaaccgt ggtggtggtg gtggtgtg 58

<210> 297  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligo1F-C-glycine-linker

<400> 297  
tcgaggggtg tggtggtggt tgcggttaat aagtttaaac gc 42

<210> 298  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligo1R-C-glycine-linker

<400> 298  
ggccgcgttt aaacttatta accgcaacca ccaccaccac cc 42

<210> 299  
<211> 51  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligo1F-C-gamma1-linker

<400> 299  
tcgaggataa aaccacacc tctccgccgt gtggttaata agtttaaagc c 51

<210> 300

<211> 51  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligo1R-C-gamma1-linker

<400> 300  
ggccgcgttt aaacttatta accacacggc ggagaggtgt gggttttatc c 51

<210> 301  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligo1FA-C-gamma3-linker

<400> 301  
tcgagccgaa accgtctacc ccgccggggtt cttctg 36

<210> 302  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligo1RA-C-gamma3-linker

<400> 302  
caccaccaga agaaccggc ggggtagacg gtttcggc 38

<210> 303  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligo2FB-C-gamma3-linker

<400> 303  
gtggtgctcc gggtggttgc ggtaataag tttaaacgc 39

<210> 304  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligo2RB-C-gamma3-linker

<400> 304  
ggccgcgttt aaacttatta accgcaacca cccggag 37

<210> 305  
<211> 33  
<212> DNA



<213> Artificial Sequence

<220>

<223> rMIF-F oligonucleotide

<400> 305

ggaattccat atgcctatgt tcatcgtgaa cac

33

<210> 306

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> rMIF-Xho-R oligonucleotide

<400> 306

cccgctcgag agcgaagggtg gaaccgttc

29

<210> 307

<211> 124

<212> PRT

<213> Artificial Sequence

<220>

<223> rMIF-C1

<400> 307

Met Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro  
1 5 10 15

Glu Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly  
20 25 30

Lys Pro Ala Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met  
35 40 45

Thr Phe Ser Gly Thr Ser Asp Pro Cys Ala Leu Cys Ser Leu His Ser  
50 55 60

Ile Gly Lys Ile Gly Gly Ala Gln Asn Arg Asn Tyr Ser Lys Leu Leu  
65 70 75 80

Cys Gly Leu Leu Ser Asp Arg Leu His Ile Ser Pro Asp Arg Val Tyr  
85 90 95

Ile Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Gly Ser  
100 105 110

Thr Phe Ala Leu Glu Gly Gly Gly Gly Cys Gly  
115 120

<210> 308  
<211> 127  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> rMIF-C2

<400> 308

Met Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro  
1 5 10 15

Glu Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly  
20 25 30

Lys Pro Ala Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met  
35 40 45

Thr Phe Ser Gly Thr Ser Asp Pro Cys Ala Leu Cys Ser Leu His Ser  
50 55 60

Ile Gly Lys Ile Gly Gly Ala Gln Asn Arg Asn Tyr Ser Lys Leu Leu  
65 70 75 80

Cys Gly Leu Leu Ser Asp Arg Leu His Ile Ser Pro Asp Arg Val Tyr  
85 90 95

Ile Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Gly Ser  
100 105 110

Thr Phe Ala Leu Glu Asp Lys Thr His Thr Ser Pro Pro Cys Gly  
115 120 125

<210> 309  
<211> 135  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> rMIF-C3

<400> 309

Met Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro  
1 5 10 15

Glu Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly  
20 25 30

Lys Pro Ala Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met  
35 40 45

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Thr Phe Ser Gly Thr Ser Asp Pro Cys Ala Leu Cys Ser Leu His Ser  
50 55 60

Ile Gly Lys Ile Gly Gly Ala Gln Asn Arg Asn Tyr Ser Lys Leu Leu  
65 70 75 80

Cys Gly Leu Leu Ser Asp Arg Leu His Ile Ser Pro Asp Arg Val Tyr  
85 90 95

Ile Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Gly Ser  
100 105 110

Thr Phe Ala Leu Glu Pro Lys Pro Ser Thr Pro Pro Gly Ser Ser Gly  
115 120 125

Gly Ala Pro Gly Gly Cys Gly  
130 135

<210> 310  
<211> 124  
<212> PRT  
<213> Homo sapiens

<400> 310

Met Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro  
1 5 10 15

Asp Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly  
20 25 30

Lys Pro Pro Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met  
35 40 45

Ala Phe Gly Gly Ser Ser Glu Pro Cys Ala Leu Cys Ser Leu His Ser  
50 55 60

Ile Gly Lys Ile Gly Gly Ala Gln Asn Arg Ser Tyr Ser Lys Leu Leu  
65 70 75 80

Cys Gly Leu Leu Ala Glu Arg Leu Arg Ile Ser Pro Asp Arg Val Tyr  
85 90 95

Ile Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Asn Ser  
100 105 110

Thr Phe Ala Leu Glu Gly Gly Gly Gly Gly Cys Gly  
115 120

<210> 311  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 311

Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro Asp  
 1 5 10 15

Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly Lys  
 20 25 30

Pro Pro Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met Ala  
 35 40 45

Phe Gly Gly Ser Ser Glu Pro Cys Ala Leu Cys Ser Leu His Ser Ile  
 50 55 60

Gly Lys Ile Gly Gly Ala Gln Asn Arg Ser Tyr Ser Lys Leu Leu Cys  
 65 70 75 80

Gly Leu Leu Ala Glu Arg Leu Arg Ile Ser Pro Asp Arg Val Tyr Ile  
 85 90 95

Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Asn Ser Thr  
 100 105 110

Phe Ala Leu Glu Gly Gly Gly Gly Cys Gly  
 115 120

<210> 312  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 312

Met Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro  
 1 5 10 15

Asp Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly  
 20 25 30

Lys Pro Pro Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met  
 35 40 45

Ala Phe Gly Gly Ser Ser Glu Pro Cys Ala Leu Cys Ser Leu His Ser  
 50 55 60

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Ile Gly Lys Ile Gly Gly Ala Gln Asn Arg Ser Tyr Ser Lys Leu Leu  
65 70 75 80

Cys Gly Leu Leu Ala Glu Arg Leu Arg Ile Ser Pro Asp Arg Val Tyr  
85 90 95

Ile Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Asn Ser  
100 105 110

Thr Phe Ala Leu Glu Asp Lys Thr His Thr Ser Pro Pro Cys Gly  
115 120 125

<210> 313  
<211> 126  
<212> PRT  
<213> Homo sapiens

<400> 313

Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro Asp  
1 5 10 15

Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly Lys  
20 25 30

Pro Pro Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met Ala  
35 40 45

Phe Gly Gly Ser Ser Glu Pro Cys Ala Leu Cys Ser Leu His Ser Ile  
50 55 60

Gly Lys Ile Gly Gly Ala Gln Asn Arg Ser Tyr Ser Lys Leu Leu Cys  
65 70 75 80

Gly Leu Leu Ala Glu Arg Leu Arg Ile Ser Pro Asp Arg Val Tyr Ile  
85 90 95

Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Asn Ser Thr  
100 105 110

Phe Ala Leu Glu Asp Lys Thr His Thr Ser Pro Pro Cys Gly  
115 120 125

<210> 314  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 314

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Met Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro  
1 5 10 15

Asp Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly  
20 25 30

Lys Pro Pro Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met  
35 40 45

Ala Phe Gly Gly Ser Ser Glu Pro Cys Ala Leu Cys Ser Leu His Ser  
50 55 60

Ile Gly Lys Ile Gly Gly Ala Gln Asn Arg Ser Tyr Ser Lys Leu Leu  
65 70 75 80

Cys Gly Leu Leu Ala Glu Arg Leu Arg Ile Ser Pro Asp Arg Val Tyr  
85 90 95

Ile Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Asn Ser  
100 105 110

Thr Phe Ala Leu Glu Pro Lys Pro Ser Thr Pro Pro Gly Ser Ser Gly  
115 120 125

Gly Ala Pro Gly Gly Cys Gly  
130 135

<210> 315  
<211> 134  
<212> PRT  
<213> Homo sapiens

<400> 315

Pro Met Phe Ile Val Asn Thr Asn Val Pro Arg Ala Ser Val Pro Asp  
1 5 10 15

Gly Phe Leu Ser Glu Leu Thr Gln Gln Leu Ala Gln Ala Thr Gly Lys  
20 25 30

Pro Pro Gln Tyr Ile Ala Val His Val Val Pro Asp Gln Leu Met Ala  
35 40 45

Phe Gly Gly Ser Ser Glu Pro Cys Ala Leu Cys Ser Leu His Ser Ile  
50 55 60

Gly Lys Ile Gly Gly Ala Gln Asn Arg Ser Tyr Ser Lys Leu Leu Cys  
65 70 75 80

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Gly Leu Leu Ala Glu Arg Leu Arg Ile Ser Pro Asp Arg Val Tyr Ile  
85 90 95

Asn Tyr Tyr Asp Met Asn Ala Ala Asn Val Gly Trp Asn Asn Ser Thr  
100 105 110

Phe Ala Leu Glu Pro Lys Pro Ser Thr Pro Pro Gly Ser Ser Gly Gly  
115 120 125

Ala Pro Gly Gly Cys Gly  
130

<210> 316  
<211> 62  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> RANKL-UP oligonucleotide

<400> 316  
ctgccagggg cccgggtgcg gcggtggcca tcatcaccac catcaccagc gcttctcagg 60  
ag 62

<210> 317  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> RANKL-down oligonucleotide

<400> 317  
ccgctcgagt tagtctatgt cctgaacttt gaaag 35

<210> 318  
<211> 419  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> GST-PS-C-RANKL construct

<400> 318

Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro  
1 5 10 15

Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr Glu Glu His Leu  
20 25 30

Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu  
35 40 45

Gly	Leu	Glu	Phe	Pro	Asn	Leu	Pro	Tyr	Tyr	Ile	Asp	Gly	Asp	Val	Lys	50	55	60	
Leu	Thr	Gln	Ser	Met	Ala	Ile	Ile	Arg	Tyr	Ile	Ala	Asp	Lys	His	Asn	65	70	75	80
Met	Leu	Gly	Gly	Cys	Pro	Lys	Glu	Arg	Ala	Glu	Ile	Ser	Met	Leu	Glu	85	90	95	
Gly	Ala	Val	Leu	Asp	Ile	Arg	Tyr	Gly	Val	Ser	Arg	Ile	Ala	Tyr	Ser	100	105	110	
Lys	Asp	Phe	Glu	Thr	Leu	Lys	Val	Asp	Phe	Leu	Ser	Lys	Leu	Pro	Glu	115	120	125	
Met	Leu	Lys	Met	Phe	Glu	Asp	Arg	Leu	Cys	His	Lys	Thr	Tyr	Leu	Asn	130	135	140	
Gly	Asp	His	Val	Thr	His	Pro	Asp	Phe	Met	Leu	Tyr	Asp	Ala	Leu	Asp	145	150	155	160
Val	Val	Leu	Tyr	Met	Asp	Pro	Met	Cys	Leu	Asp	Ala	Phe	Pro	Lys	Leu	165	170	175	
Val	Cys	Phe	Lys	Lys	Arg	Ile	Glu	Ala	Ile	Pro	Gln	Ile	Asp	Lys	Tyr	180	185	190	
Leu	Lys	Ser	Ser	Lys	Tyr	Ile	Ala	Trp	Pro	Leu	Gln	Gly	Trp	Gln	Ala	195	200	205	
Thr	Phe	Gly	Gly	Gly	Asp	His	Pro	Pro	Lys	Ser	Asp	Leu	Glu	Val	Leu	210	215	220	
Phe	Gln	Gly	Pro	Gly	Cys	Gly	Gly	Gly	His	His	His	His	His	His	Gln	225	230	235	240
Arg	Phe	Ser	Gly	Ala	Pro	Ala	Met	Met	Glu	Gly	Ser	Trp	Leu	Asp	Val	245	250	255	
Ala	Gln	Arg	Gly	Lys	Pro	Glu	Ala	Gln	Pro	Phe	Ala	His	Leu	Thr	Ile	260	265	270	
Asn	Ala	Ala	Ser	Ile	Pro	Ser	Gly	Ser	His	Lys	Val	Thr	Leu	Ser	Ser	275	280	285	
Trp	Tyr	His	Asp	Arg	Gly	Trp	Ala	Lys	Ile	Ser	Asn	Met	Thr	Leu	Ser				



290		295		300
Asn Gly Lys Leu Arg Val Asn Gln Asp Gly Phe Tyr Tyr Leu Tyr Ala				
305		310	315	320
Asn Ile Cys Phe Arg His His Glu Thr Ser Gly Ser Val Pro Thr Asp				
	325		330	335
Tyr Leu Gln Leu Met Val Tyr Val Val Lys Thr Ser Ile Lys Ile Pro				
	340		345	350
Ser Ser His Asn Leu Met Lys Gly Gly Ser Thr Lys Asn Trp Ser Gly				
	355		360	365
Asn Ser Glu Phe His Phe Tyr Ser Ile Asn Val Gly Gly Phe Phe Lys				
	370		375	380
Leu Arg Ala Gly Glu Glu Ile Ser Ile Gln Val Ser Asn Pro Ser Leu				
	385		390	395
Leu Asp Pro Asp Gln Asp Ala Thr Tyr Phe Gly Ala Phe Lys Val Gln				
	405		410	415
Asp Ile Asp				

<210> 319  
 <211> 1269  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> GST-PS-C-RANKL construct

<400> 319	
atgtccccta tactagggtta ttggaaaatt aagggccttg tgcaaccac tcgacttctt	60
ttggaatatc ttgaagaaaa atatgaagag catttgtatg agcgcgatga aggtgataaa	120
tggcgaaaca aaaagtttga attgggtttg gagtttccca atcttcctta ttatattgat	180
ggtgatgtta aattaacaca gtctatggcc atcatacgtt atatagctga caagcacaac	240
atgttgggtg gttgtccaaa agagcgtgca gagatttcaa tgcttgaagg agcggttttg	300
gatattagat acggtgtttc gagaattgca tatagtaaag actttgaaac tctcaaagtt	360
gattttctta gcaagctacc tgaaatgctg aaaatgttcg aagatcgttt atgtcataaa	420
acatatattaa atggtgatca tgtaacccat cctgacttca tgttgtatga cgctcttgat	480
gttgttttat acatggaccc aatgtgcctg gatgcgttcc caaaattagt ttgttttaaa	540

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aaacgtattg aagctatccc acaaattgat aagtacttga aatccagcaa gtatatagca      600
tggcctttgc agggctggca agccacgttt ggtggtggcg accatcctcc aaaatcggat      660
ctggaagttc tgttccaggg gcccggtgct ggcggtggcc atcatcacca ccatcaccag      720
cgcttctcag gagctccagc tatgatggaa ggctcatggt tggatgtggc ccagcgaggc      780
aagcctgagg ccagccatt tgcacacctc accatcaatg ctgccagcat cccatcgggt      840
tcccataaag tcaactctgtc ctcttggtac cacgatcgag gctggggcaa gatctctaac      900
atgacgttaa gcaacggaaa actaagggtt aaccaagatg gcttctatta cctgtacgcc      960
aacatttgct ttcggcatca tgaaacatcg ggaagcgtac ctacagacta tcttcagctg     1020
atggtgtatg tcgttaaaac cagcatcaaa atcccaagtt ctcataacct gatgaaagga     1080
gggagcacga aaaactggtc gggcaattct gaattccact tttattccat aaatgttggg     1140
ggatttttca agctccgagc tggatgaagaa attagcattc aggtgtccaa cccttccttg     1200
ctggatccgg atcaagatgc gacgtacttt ggggctttca aagttcagga catagactaa     1260
ctcgagcgg                                     1269

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<210> 320
<211> 185
<212> PRT
<213> Homo sapiens

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<400> 320

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Gly Cys Gly Gly Gly Gln His Ile Arg Ala Glu Lys Ala Met Val Asp
1          5          10          15

```

```

Gly Ser Trp Leu Asp Leu Ala Lys Arg Ser Lys Leu Glu Ala Gln Pro
20          25          30

```

```

Phe Ala His Leu Thr Ile Asn Ala Thr Asp Ile Pro Ser Gly Ser His
35          40          45

```

```

Lys Val Ser Leu Ser Ser Trp Tyr His Asp Arg Gly Trp Ala Lys Ile
50          55          60

```

```

Ser Asn Met Thr Phe Ser Asn Gly Lys Leu Ile Val Asn Gln Asp Gly
65          70          75          80

```

```

Phe Tyr Tyr Leu Tyr Ala Asn Ile Cys Phe Arg His His Glu Thr Ser
85          90          95

```

```

Gly Asp Leu Ala Thr Glu Tyr Leu Gln Leu Met Val Tyr Val Thr Lys
100          105          110

```

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Thr Ser Ile Lys Ile Pro Ser Ser His Thr Leu Met Lys Gly Gly Ser  
115 120 125

Thr Lys Tyr Trp Ser Gly Asn Ser Glu Phe His Phe Tyr Ser Ile Asn  
130 135 140

Val Gly Gly Phe Phe Lys Leu Arg Ser Gly Glu Glu Ile Ser Ile Glu  
145 150 155 160

Val Ser Asn Pro Ser Leu Leu Asp Pro Asp Gln Asp Ala Thr Tyr Phe  
165 170 175

Gly Ala Phe Lys Val Arg Asp Ile Asp  
180 185

<210> 321  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer 5'PrP-BamHI

<400> 321  
cgggatccca ccatggtggg gggccttgg

29

<210> 322  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer 3'PrP-NheI

<400> 322  
ctagctagcc tggatcttct cccg

24

<210> 323  
<211> 350  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> mPrPt-EK-Fc construct

<400> 323

Met Val Gly Gly Leu Gly Gly Tyr Met Leu Gly Ser Ala Met Ser Arg  
1 5 10 15

Pro Met Ile His Phe Gly Asn Asp Trp Glu Asp Arg Tyr Tyr Arg Glu  
20 25 30

Asn	Met	Tyr	Arg	Tyr	Pro	Asn	Gln	Val	Tyr	Tyr	Arg	Pro	Val	Asp	Gln
	35						40					45			
Tyr	Ser	Asn	Gln	Asn	Asn	Phe	Val	His	Asp	Cys	Val	Asn	Ile	Thr	Ile
	50					55					60				
Lys	Gln	His	Thr	Val	Thr	Thr	Thr	Thr	Lys	Gly	Glu	Asn	Phe	Thr	Glu
65					70					75					80
Thr	Asp	Val	Lys	Met	Met	Glu	Arg	Val	Val	Glu	Gln	Met	Cys	Val	Thr
				85					90					95	
Gln	Tyr	Gln	Lys	Glu	Ser	Gln	Ala	Tyr	Tyr	Asp	Gly	Arg	Ser	Arg	Leu
			100					105					110		
Ala	Gly	Gly	Gly	Gly	Cys	Gly	Asp	Asp	Asp	Asp	Lys	Leu	Thr	His	Thr
		115					120					125			
Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Ala	Glu	Gly	Ala	Pro	Ser	Val	Phe
	130					135					140				
Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro
145				150						155					160
Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val
				165					170					175	
Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr
			180					185					190		
Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val
		195					200					205			
Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys
	210					215					220				
Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Ser	Ile	Glu	Lys	Thr	Ile	Ser
225					230					235					240
Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro
				245					250					255	
Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val
			260					265					270		
Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly
		275					280					285			

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp  
290 295 300

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp  
305 310 315 320

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His  
325 330 335

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
340 345 350

<210> 324  
<211> 124  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> mPrPt construct

<400> 324

Met Val Gly Gly Leu Gly Gly Tyr Met Leu Gly Ser Ala Met Ser Arg  
1 5 10 15

Pro Met Ile His Phe Gly Asn Asp Trp Glu Asp Arg Tyr Tyr Arg Glu  
20 25 30

Asn Met Tyr Arg Tyr Pro Asn Gln Val Tyr Tyr Arg Pro Val Asp Gln  
35 40 45

Tyr Ser Asn Gln Asn Asn Phe Val His Asp Cys Val Asn Ile Thr Ile  
50 55 60

Lys Gln His Thr Val Thr Thr Thr Thr Lys Gly Glu Asn Phe Thr Glu  
65 70 75 80

Thr Asp Val Lys Met Met Glu Arg Val Val Glu Gln Met Cys Val Thr  
85 90 95

Gln Tyr Gln Lys Glu Ser Gln Ala Tyr Tyr Asp Gly Arg Ser Arg Leu  
100 105 110

Ala Gly Gly Gly Gly Cys Gly Asp Asp Asp Asp Lys  
115 120

<210> 325  
<211> 102  
<212> PRT

<213> Artificial Sequence

<220>

<223> human resistin-C-Xa construct

<400> 325

Ser Ser Lys Thr Leu Cys Ser Met Glu Glu Ala Ile Asn Glu Arg Ile  
1 5 10 15

Gln Glu Val Ala Gly Ser Leu Ile Phe Arg Ala Ile Ser Ser Ile Gly  
20 25 30

Leu Glu Cys Gln Ser Val Thr Ser Arg Gly Asp Leu Ala Thr Cys Pro  
35 40 45

Arg Gly Phe Ala Val Thr Gly Cys Thr Cys Gly Ser Ala Cys Gly Ser  
50 55 60

Trp Asp Val Arg Ala Glu Thr Thr Cys His Cys Gln Cys Ala Gly Met  
65 70 75 80

Asp Trp Thr Gly Ala Arg Cys Cys Arg Val Gln Pro Gly Gly Gly Gly  
85 90 95

Cys Gly Ile Glu Gly Arg  
100

<210> 326

<211> 103

<212> PRT

<213> Artificial Sequence

<220>

<223> human resistin-C-EK construct

<400> 326

Ser Ser Lys Thr Leu Cys Ser Met Glu Glu Ala Ile Asn Glu Arg Ile  
1 5 10 15

Gln Glu Val Ala Gly Ser Leu Ile Phe Arg Ala Ile Ser Ser Ile Gly  
20 25 30

Leu Glu Cys Gln Ser Val Thr Ser Arg Gly Asp Leu Ala Thr Cys Pro  
35 40 45

Arg Gly Phe Ala Val Thr Gly Cys Thr Cys Gly Ser Ala Cys Gly Ser  
50 55 60

Trp Asp Val Arg Ala Glu Thr Thr Cys His Cys Gln Cys Ala Gly Met

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<210>    328
<211>    132
<212>    PRT
<213>    Artificial Sequence
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<220>  
<223> mouse C-IL-13-F construct

<400> 328

Ala Asp Pro Gly Cys Gly Gly Gly Gly Gly Leu Ala Gly Pro Val Pro  
1 5 10 15

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Arg Ser Val Ser Leu Pro Leu Thr Leu Lys Glu Leu Ile Glu Glu Leu  
20 25 30

Ser Asn Ile Thr Gln Asp Gln Thr Pro Leu Cys Asn Gly Ser Met Val  
35 40 45

Trp Ser Val Asp Leu Ala Ala Gly Gly Phe Cys Val Ala Leu Asp Ser  
50 55 60

Leu Thr Asn Ile Ser Asn Cys Asn Ala Ile Tyr Arg Thr Gln Arg Ile  
65 70 75 80

Leu His Gly Leu Cys Asn Arg Lys Ala Pro Thr Thr Val Ser Ser Leu  
85 90 95

Pro Asp Thr Lys Ile Glu Val Ala His Phe Ile Thr Lys Leu Leu Ser  
100 105 110

Tyr Thr Lys Gln Leu Phe Arg His Gly Pro Phe Leu Glu Val Leu Ala  
115 120 125

Ile Glu Gly Arg  
130

<210> 329

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> mouse C-IL-13-S construct

<400> 329

Leu Ala Cys Gly Gly Gly Gly Gly Gly Pro Val Pro Arg Ser Val Ser  
1 5 10 15

Leu Pro Leu Thr Leu Lys Glu Leu Ile Glu Glu Leu Ser Asn Ile Thr  
20 25 30

Gln Asp Gln Thr Pro Leu Cys Asn Gly Ser Met Val Trp Ser Val Asp  
35 40 45

Leu Ala Ala Gly Gly Phe Cys Val Ala Leu Asp Ser Leu Thr Asn Ile  
50 55 60

Ser Asn Cys Asn Ala Ile Tyr Arg Thr Gln Arg Ile Leu His Gly Leu  
65 70 75 80



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Cys Asn Arg Lys Ala Pro Thr Thr Val Ser Ser Leu Pro Asp Thr Lys  
85 90 95

Ile Glu Val Ala His Phe Ile Thr Lys Leu Leu Ser Tyr Thr Lys Gln  
100 105 110

Leu Phe Arg His Gly Pro Phe  
115

<210> 330

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> human C-IL-13-F construct

<400> 330

Ala Asp Pro Gly Cys Gly Gly Gly Gly Gly Leu Ala Gly Pro Val Pro  
1 5 10 15

Pro Ser Thr Ala Leu Arg Glu Leu Ile Glu Glu Leu Val Asn Ile Thr  
20 25 30

Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met Val Trp Ser Ile  
35 40 45

Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Glu Ser Leu Ile Asn  
50 55 60

Val Ser Gly Cys Ser Ala Ile Glu Lys Thr Gln Arg Met Leu Ser Gly  
65 70 75 80

Phe Cys Pro His Lys Val Ser Ala Gly Gln Phe Ser Ser Leu His Val  
85 90 95

Arg Asp Thr Lys Ile Glu Val Ala Gln Phe Val Lys Asp Leu Leu Leu  
100 105 110

His Leu Lys Lys Leu Phe Arg Glu Gly Arg Phe Asn Leu Glu Val Leu  
115 120 125

Ala Ile Glu Gly Arg  
130

<210> 331

<211> 120

<212> PRT

<213> Artificial Sequence

<220>  
<223> human C-IL-13-S construct

<400> 331

Leu Ala Cys Gly Gly Gly Gly Gly Gly Pro Val Pro Pro Ser Thr Ala  
1 5 10 15

Leu Arg Glu Leu Ile Glu Glu Leu Val Asn Ile Thr Gln Asn Gln Lys  
20 25 30

Ala Pro Leu Cys Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala  
35 40 45

Gly Met Tyr Cys Ala Ala Leu Glu Ser Leu Ile Asn Val Ser Gly Cys  
50 55 60

Ser Ala Ile Glu Lys Thr Gln Arg Met Leu Ser Gly Phe Cys Pro His  
65 70 75 80

Lys Val Ser Ala Gly Gln Phe Ser Ser Leu His Val Arg Asp Thr Lys  
85 90 95

Ile Glu Val Ala Gln Phe Val Lys Asp Leu Leu Leu His Leu Lys Lys  
100 105 110

Leu Phe Arg Glu Gly Arg Phe Asn  
115 120

<210> 332  
<211> 136  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> mouse C-IL-5-E construct

<400> 332

Ala Leu Val Gly Cys Gly Gly Pro Lys Pro Ser Thr Pro Pro Gly Ser  
1 5 10 15

Ser Gly Gly Ala Pro Ala Ser Met Glu Ile Pro Met Ser Thr Val Val  
20 25 30

Lys Glu Thr Leu Thr Gln Leu Ser Ala His Arg Ala Leu Leu Thr Ser  
35 40 45

Asn Glu Thr Met Arg Leu Pro Val Pro Thr His Lys Asn His Gln Leu  
50 55 60

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Cys Ile Gly Glu Ile Phe Gln Gly Leu Asp Ile Leu Lys Asn Gln Thr  
65 70 75 80

Val Arg Gly Gly Thr Val Glu Met Leu Phe Gln Asn Leu Ser Leu Ile  
85 90 95

Lys Lys Tyr Ile Asp Arg Gln Lys Glu Lys Cys Gly Glu Glu Arg Arg  
100 105 110

Arg Thr Arg Gln Phe Leu Asp Tyr Leu Gln Glu Phe Leu Gly Val Met  
115 120 125

Ser Thr Glu Trp Ala Met Glu Gly  
130 135

<210> 333  
<211> 134  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> mouse C-IL-5-F construct

<400> 333

Ala Asp Pro Gly Cys Gly Gly Gly Gly Gly Leu Ala Met Glu Ile Pro  
1 5 10 15

Met Ser Thr Val Val Lys Glu Thr Leu Thr Gln Leu Ser Ala His Arg  
20 25 30

Ala Leu Leu Thr Ser Asn Glu Thr Met Arg Leu Pro Val Pro Thr His  
35 40 45

Lys Asn His Gln Leu Cys Ile Gly Glu Ile Phe Gln Gly Leu Asp Ile  
50 55 60

Leu Lys Asn Gln Thr Val Arg Gly Gly Thr Val Glu Met Leu Phe Gln  
65 70 75 80

Asn Leu Ser Leu Ile Lys Lys Tyr Ile Asp Arg Gln Lys Glu Lys Cys  
85 90 95

Gly Glu Glu Arg Arg Arg Thr Arg Gln Phe Leu Asp Tyr Leu Gln Glu  
100 105 110

Phe Leu Gly Val Met Ser Thr Glu Trp Ala Met Glu Gly Leu Glu Val  
115 120 125

Leu Ala Ile Glu Gly Arg  
130

<210> 334  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> mouse C-IL-5-S construct

<400> 334

Leu Ala Cys Gly Gly Gly Gly Gly Met Glu Ile Pro Met Ser Thr Val  
1 5 10 15

Val Lys Glu Thr Leu Thr Gln Leu Ser Ala His Arg Ala Leu Leu Thr  
20 25 30

Ser Asn Glu Thr Met Arg Leu Pro Val Pro Thr His Lys Asn His Gln  
35 40 45

Leu Cys Ile Gly Glu Ile Phe Gln Gly Leu Asp Ile Leu Lys Asn Gln  
50 55 60

Thr Val Arg Gly Gly Thr Val Glu Met Leu Phe Gln Asn Leu Ser Leu  
65 70 75 80

Ile Lys Lys Tyr Ile Asp Arg Gln Lys Glu Lys Cys Gly Glu Glu Arg  
85 90 95

Arg Arg Thr Arg Gln Phe Leu Asp Tyr Leu Gln Glu Phe Leu Gly Val  
100 105 110

Met Ser Thr Glu Trp Ala Met Glu Gly  
115 120

<210> 335  
<211> 138  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> human C-IL-5-E construct

<400> 335

Ala Leu Val Gly Cys Gly Gly Pro Lys Pro Ser Thr Pro Pro Gly Ser  
1 5 10 15

Ser Gly Gly Ala Pro Ala Ser Ile Pro Thr Glu Ile Pro Thr Ser Ala  
20 25 30

Leu Val Lys Glu Thr Leu Ala Leu Leu Ser Thr His Arg Thr Leu Leu  
35 40 45

Ile Ala Asn Glu Thr Leu Arg Ile Pro Val Pro Val His Lys Asn His  
50 55 60

Gln Leu Cys Thr Glu Glu Ile Phe Gln Gly Ile Gly Thr Leu Glu Ser  
65 70 75 80

Gln Thr Val Gln Gly Gly Thr Val Glu Arg Leu Phe Lys Asn Leu Ser  
85 90 95

Leu Ile Lys Lys Tyr Ile Asp Gly Gln Lys Lys Lys Cys Gly Glu Glu  
100 105 110

Arg Arg Arg Val Asn Gln Phe Leu Asp Tyr Leu Gln Glu Phe Leu Gly  
115 120 125

Val Met Asn Thr Glu Trp Ile Ile Glu Ser  
130 135

<210> 336

<211> 136

<212> PRT

<213> Artificial Sequence

<220>

<223> human C-IL-5-F construct

<400> 336

Ala Asp Pro Gly Cys Gly Gly Gly Gly Gly Leu Ala Ile Pro Thr Glu  
1 5 10 15

Ile Pro Thr Ser Ala Leu Val Lys Glu Thr Leu Ala Leu Leu Ser Thr  
20 25 30

His Arg Thr Leu Leu Ile Ala Asn Glu Thr Leu Arg Ile Pro Val Pro  
35 40 45

Val His Lys Asn His Gln Leu Cys Thr Glu Glu Ile Phe Gln Gly Ile  
50 55 60

Gly Thr Leu Glu Ser Gln Thr Val Gln Gly Gly Thr Val Glu Arg Leu  
65 70 75 80

Phe Lys Asn Leu Ser Leu Ile Lys Lys Tyr Ile Asp Gly Gln Lys Lys  
85 90 95

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Lys Cys Gly Glu Glu Arg Arg Arg Val Asn Gln Phe Leu Asp Tyr Leu  
100 105 110

Gln Glu Phe Leu Gly Val Met Asn Thr Glu Trp Ile Ile Glu Ser Leu  
115 120 125

Glu Val Leu Ala Ile Glu Gly Arg  
130 135

<210> 337  
<211> 123  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> human C-IL-5-S construct

<400> 337

Leu Ala Cys Gly Gly Gly Gly Gly Ile Pro Thr Glu Ile Pro Thr Ser  
1 5 10 15

Ala Leu Val Lys Glu Thr Leu Ala Leu Leu Ser Thr His Arg Thr Leu  
20 25 30

Leu Ile Ala Asn Glu Thr Leu Arg Ile Pro Val Pro Val His Lys Asn  
35 40 45

His Gln Leu Cys Thr Glu Glu Ile Phe Gln Gly Ile Gly Thr Leu Glu  
50 55 60

Ser Gln Thr Val Gln Gly Gly Thr Val Glu Arg Leu Phe Lys Asn Leu  
65 70 75 80

Ser Leu Ile Lys Lys Tyr Ile Asp Gly Gln Lys Lys Lys Cys Gly Glu  
85 90 95

Glu Arg Arg Arg Val Asn Gln Phe Leu Asp Tyr Leu Gln Glu Phe Leu  
100 105 110

Gly Val Met Asn Thr Glu Trp Ile Ile Glu Ser  
115 120

<210> 338  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> primer NheIL13-F

<400> 338

Cys Thr Ala Gly Cys Thr Ala Gly Cys Cys Gly Gly Gly Cys Cys Gly  
1 5 10 15

Gly Thr Gly Cys Cys Ala Ala Gly Ala Thr Cys  
20 25

<210> 339

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> primer XhoIL13-R

<400> 339

tttctcgagg aaggggcccgt ggcgaa

26

<210> 340

<211> 55

<212> DNA

<213> Artificial Sequence

<220>

<223> primer Spelinker3-F1

<400> 340

ccccgccggg ttcttctggc ggtgctccgg ctagcatgga gattcccatg agcac

55

<210> 341

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer SpeNlinker3-F2

<400> 341

ttttactagt tggttgcggc ggcccgaac cgagcaccac gccgggttct tc

52

<210> 342

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer IL5StopXho-R

<400> 342

ttttgcggcc gcgtttaaac tcgagttatt agccttccat tgcccactc

49

<210> 343

<211> 25

<212> DNA

<213> Artificial Sequence

<220>  
<223> Primer BamH1-FLK1-F

<400> 343  
cgcggatcca ttcacgcct ctgtc

25

<210> 344  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer Nhe1-FLK1-B

<400> 344  
ctagctagct ttgtgtgaac tcggac

26

<210> 345  
<211> 205  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> mVEGFR-2 (2-3) fragment

<400> 345

Pro Phe Ile Ala Ser Val Ser Asp Gln His Gly Ile Val Tyr Ile Thr  
1 5 10 15

Glu Asn Lys Asn Lys Thr Val Val Ile Pro Cys Arg Gly Ser Ile Ser  
20 25 30

Asn Leu Asn Val Ser Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val  
35 40 45

Pro Asp Gly Asn Arg Ile Ser Trp Asp Ser Glu Ile Gly Phe Thr Leu  
50 55 60

Pro Ser Tyr Met Ile Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys  
65 70 75 80

Ile Asn Asp Glu Thr Tyr Gln Ser Ile Met Tyr Ile Val Val Val Val  
85 90 95

Gly Tyr Arg Ile Tyr Asp Val Ile Leu Ser Pro Pro His Glu Ile Glu  
100 105 110

Leu Ser Ala Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu  
115 120 125

Leu Asn Val Gly Leu Asp Phe Thr Trp His Ser Pro Pro Ser Lys Ser



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130
135
140
His His Lys Lys Ile Val Asn Arg Asp Val Lys Pro Phe Pro Gly Thr
145 150 155 160
Val Ala Lys Met Phe Leu Ser Thr Leu Thr Ile Glu Ser Val Thr Lys
165 170 175
Ser Asp Gln Gly Glu Tyr Thr Cys Val Ala Ser Ser Gly Arg Met Ile
180 185 190
Lys Arg Asn Arg Thr Phe Val Arg Val His Thr Lys Pro
195 200 205
<210> 346
<211> 263
<212> PRT
<213> Artificial Sequence
<220>
<223> human C-LT_49-306 fragment
<400> 346
Leu Ala Cys Gly Gly Gln Asp Gln Gly Arg Arg Val Glu Lys Ile Ile
1 5 10 15
Gly Ser Gly Ala Gln Ala Gln Lys Arg Leu Asp Asp Ser Lys Pro Ser
20 25 30
Cys Ile Leu Pro Ser Pro Ser Ser Leu Ser Glu Thr Pro Asp Pro Arg
35 40 45
Leu His Pro Gln Arg Ser Asn Ala Ser Arg Asn Leu Ala Ser Thr Ser
50 55 60
Gln Gly Pro Val Ala Gln Ser Ser Arg Glu Ala Ser Ala Trp Met Thr
65 70 75 80
Ile Leu Ser Pro Ala Ala Asp Ser Thr Pro Asp Pro Gly Val Gln Gln
85 90 95
Leu Pro Lys Gly Glu Pro Glu Thr Asp Leu Asn Pro Glu Leu Pro Ala
100 105 110
Ala His Leu Ile Gly Ala Trp Met Ser Gly Gln Gly Leu Ser Trp Glu
115 120 125
Ala Ser Gln Glu Glu Ala Phe Leu Arg Ser Gly Ala Gln Phe Ser Pro

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130	135	140
Thr His Gly Leu Ala Leu Pro Gln Asp Gly Val Tyr Tyr Leu Tyr Cys		
145	150	155 160
His Val Gly Tyr Arg Gly Arg Thr Pro Pro Ala Gly Arg Ser Arg Ala		
	165	170 175
Arg Ser Leu Thr Leu Arg Ser Ala Leu Tyr Arg Ala Gly Gly Ala Tyr		
	180	185 190
Gly Arg Gly Ser Pro Glu Leu Leu Leu Glu Gly Ala Glu Thr Val Thr		
	195	200 205
Pro Val Val Asp Pro Ile Gly Tyr Gly Ser Leu Trp Tyr Thr Ser Val		
	210	215 220
Gly Phe Gly Gly Leu Ala Gln Leu Arg Ser Gly Glu Arg Val Tyr Val		
225	230	235 240
Asn Ile Ser His Pro Asp Met Val Asp Tyr Arg Arg Gly Lys Thr Phe		
	245	250 255
Phe Gly Ala Val Met Val Gly		
	260	
<210> 347		
<211> 186		
<212> PRT		
<213> Artificial Sequence		
<220>		
<223> human C-LT_126-306 fragment		
<400> 347		
Leu Ala Cys Gly Gly Ser Pro Ala Ala Asp Ser Thr Pro Asp Pro Gly		
1	5	10 15
Val Gln Gln Leu Pro Lys Gly Glu Pro Glu Thr Asp Leu Asn Pro Glu		
	20	25 30
Leu Pro Ala Ala His Leu Ile Gly Ala Trp Met Ser Gly Gln Gly Leu		
	35	40 45
Ser Trp Glu Ala Ser Gln Glu Glu Ala Phe Leu Arg Ser Gly Ala Gln		
	50	55 60
Phe Ser Pro Thr His Gly Leu Ala Leu Pro Gln Asp Gly Val Tyr Tyr		

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65		70		75		80
Leu Tyr Cys His Val Gly Tyr Arg Gly Arg Thr Pro Pro Ala Gly Arg						
		85		90		95
Ser Arg Ala Arg Ser Leu Thr Leu Arg Ser Ala Leu Tyr Arg Ala Gly						
		100		105		110
Gly Ala Tyr Gly Arg Gly Ser Pro Glu Leu Leu Leu Glu Gly Ala Glu						
		115		120		125
Thr Val Thr Pro Val Val Asp Pro Ile Gly Tyr Gly Ser Leu Trp Tyr						
		130		135		140
Thr Ser Val Gly Phe Gly Gly Leu Ala Gln Leu Arg Ser Gly Glu Arg						
		145		150		155
Val Tyr Val Asn Ile Ser His Pro Asp Met Val Asp Tyr Arg Arg Gly						
		165		170		175
Lys Thr Phe Phe Gly Ala Val Met Val Gly						
		180		185		

<210> 348  
 <211> 117  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Modified human prion protein fragment

<400> 348

Val Gly Gly Leu Gly Gly Tyr Met Leu Gly Ser Ala Met Ser Arg Pro						
1		5		10		15
Ile Ile His Phe Gly Ser Asp Tyr Glu Asp Arg Tyr Tyr Arg Glu Asn						
		20		25		30
Met His Arg Tyr Pro Asn Gln Val Tyr Tyr Arg Pro Met Asp Glu Tyr						
		35		40		45
Ser Asn Gln Asn Asn Phe Val His Asp Cys Val Asn Ile Thr Ile Lys						
		50		55		60
Gln His Thr Val Thr Thr Thr Thr Lys Gly Glu Asn Phe Thr Glu Thr						
65		70		75		80
Asp Val Lys Met Met Glu Arg Val Val Glu Gln Met Cys Ile Thr Gln						

85

90

95

Tyr Glu Arg Glu Ser Gln Ala Tyr Tyr Gln Arg Gly Arg Leu Ala Gly  
100 105 110

Gly Gly Gly Cys Gly  
115

<210> 349  
<211> 117  
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20 25 30

Met His Arg Tyr Pro Asn Gln Val Tyr Tyr Arg Pro Val Asp Gln Tyr  
35 40 45

Ser Asn Gln Asn Asn Phe Val His Asp Cys Val Asn Ile Thr Val Lys  
50 55 60

Glu His Thr Val Thr Thr Thr Thr Lys Gly Glu Asn Phe Thr Glu Thr  
65 70 75 80

Asp Ile Lys Met Met Glu Arg Val Val Glu Gln Met Cys Ile Thr Gln  
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Tyr Gln Arg Glu Ser Gln Ala Tyr Tyr Gln Arg Gly Arg Leu Ala Gly  
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Leu Ile His Phe Gly Asn Asp Tyr Glu Asp Arg Tyr Tyr Arg Glu Asn  
20 25 30

Met Tyr Arg Tyr Pro Asn Gln Val Tyr Tyr Arg Pro Val Asp Arg Tyr  
35 40 45

Ser Asn Gln Asn Asn Phe Val His Asp Cys Val Asn Ile Thr Val Lys  
50 55 60

Gln His Thr Val Thr Thr Thr Thr Lys Gly Glu Asn Phe Thr Glu Thr  
65 70 75 80

Asp Ile Lys Ile Met Glu Arg Val Val Glu Gln Met Cys Ile Thr Gln  
85 90 95

Tyr Gln Arg Glu Ser Gln Ala Tyr Tyr Gln Arg Gly Arg Leu Ala Gly  
100 105 110

Gly Gly Gly Cys Gly  
115